VAN BUREN CORRIDOR NEIGHBORHOODS
PHOENIX TRANSPORTATION 2050
A MOBILITY IMPROVEMENT PROJECT

PHOENIX MOBILITY STUDY

Mobility Assessment Area #13

West Van Buren Corridor Neighborhoods

Current Conditions Report

November 2019

Prepared for:

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CHAPTER 1: INTRODUCTION

Purpose & Need

The City of Phoenix (City) has demonstrated a commitment to enhance the mobility of existing neighborhoods and services to help create a more livable city. On August 25, 2015, Phoenix voters approved the Transportation 2050 (T2050) plan which places emphasis on the needs of city streets - including street maintenance, new pavement, bike lanes, sidewalks and Americans with Disabilities Act (ADA) compliance and accessibility.

A separate Mobility Improvements Program was established as a distinct element to T2050 to implement additional projects that increase ADA accessibility and mobility through construction of new sidewalks and multimodal connectivity through new bicycle facilities and enhanced pedestrian amenities. The T2050 Mobility Improvements Program has allocated 15% of the T2050 funds for mobility projects. Phoenix Street Transportation staff analyzed 11 datasets to determine geographic areas of the community with the greatest mobility deficiencies and needs. After collection of all datasets, staff combined the data into a heat map, which acknowledged and ranked the 40 priority areas to move forward for additional analysis. The Citizens Transportation Commission approved the top 11 priority study areas to be part of the first of four phases of Mobility Study Areas.

The primary purpose of the mobility study is to complete a mobility gaps analysis based on available data, field analysis and information from previous area studies. The gaps analysis will lead to identification of a prioritized list of mobility improvements for presentation to the public for feedback. Upon receipt of public feedback, projects will be re-prioritized if necessary, and design, right-of-way, and construction schedule and cost estimates will be developed by the project team.

Study Objectives

The objective is to scope and prioritize sidewalk, bike facility, mid-block crossings, and other improvements that will improve walking and biking to key destinations within and adjacent to the study area. Upon completion of the study, prioritized mobility projects will be considered for inclusion in a 5-Year T2050 Mobility program of projects for design and construction.

Ultimately, the goal of the various mobility studies is to develop and recommend mobility solutions that will improve the safety, accessibility, and multimodal connectivity for all users, regardless of age or ability, to places of employment, schools, markets, transit stops and recreational opportunities.

Mobility Assessment Area #13 Overview

As illustrated in **Figure 1**, the T2050 Mobility Assessment Area #13 (MA 13) is generally located in west-central Phoenix approximately 2.5 miles from downtown Phoenix. MA 13 is bounded by Interstate 10 (I-10) to the north, 21st Avenue to the east, 35th Avenue to the west, and the Burlington Northern Santa Fe (BNSF) railroad tracks to the south. MA 13, known as the "West Van Buren Neighborhoods" due to Van Buren Street's strong presence running through the center of the study area, is located in the City's Estrella Village.

The Estrella Village, including portions of MA 13, has incrementally developed as an employment hub of sorts of industrial and commercial uses – including warehousing, transportation, logistics, shipping and other businesses. In addition, the redevelopment of agricultural and vacant land has led to a greater diversity of land uses, including a growing number of quality residential communities and commercial centers that complement and balance the concentration of industrial uses along I-10.

However, MA 13 does have some vacant land - large parcels with commercial and industrial entitlements, natural and scenic amenities, and access to major transportation corridors. MA 13 is also anticipating the Capitol/I-10 West Light Rail extension. Opportunities abound for further development and enhancements to the diverse communities in Van Buren Corridor neighborhoods.

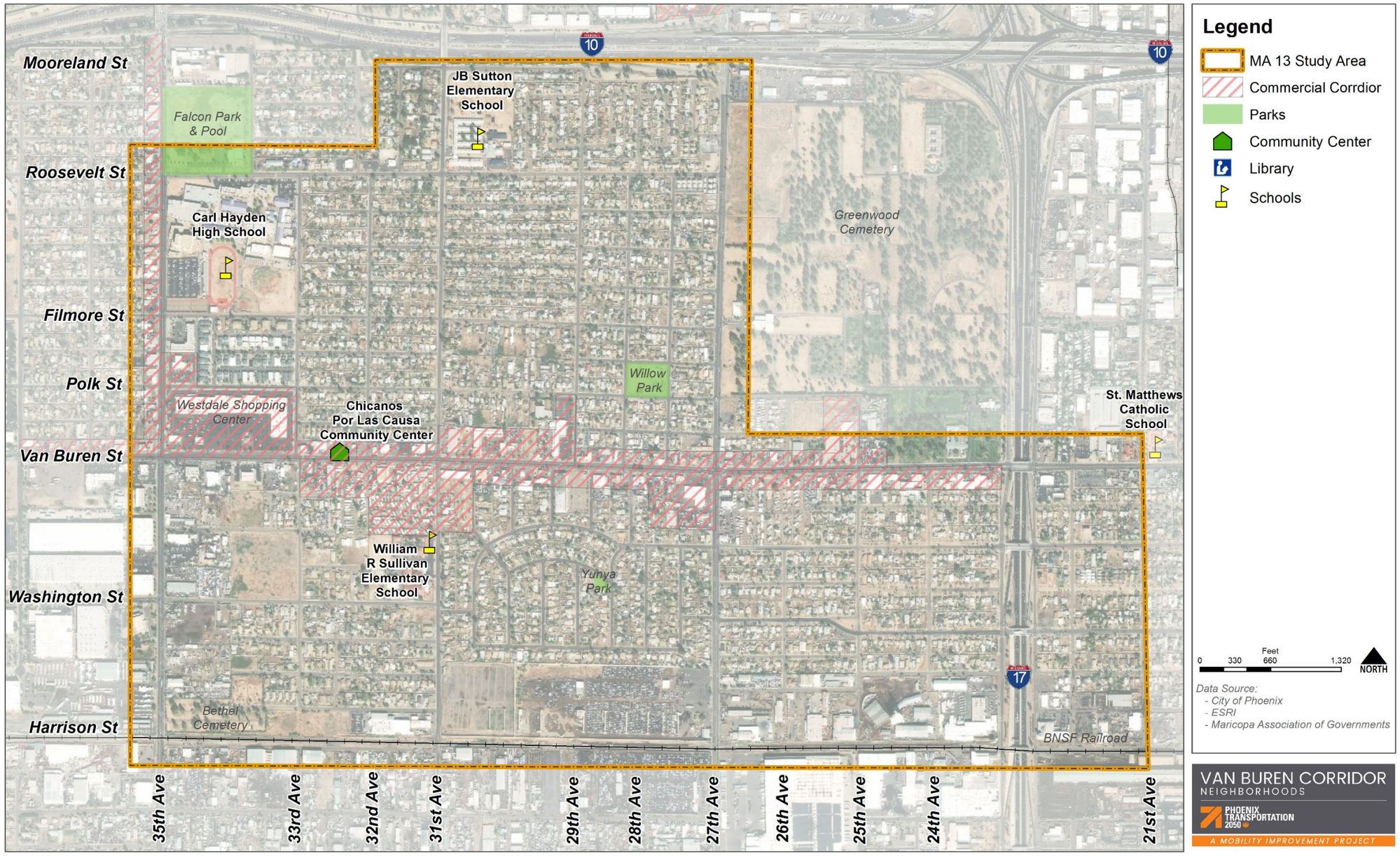
There are many different education facilities within MA 13 including three schools and a community center. These locations are major destinations which typically attract a high volume of multimodal users, thus exacerbating the importance of mobility and connectivity issues in MA 13. As Illustrated on **Figure 1**, the schools include Carl Hayden High School, J.B. Sutton Elementary School, and William R. Sullivan Elementary School. In addition, the Chicanos Por La Causa (CPLC) Community Center is located near the center of MA 13 off of Van Buren Street just east of 32nd Avenue. The CPLC Community Center and is one of the most significant destinations within the MA 13 study area and is a staple of the community.

There is significant concentration of commercial development along Van Buren Street between 27th Avenue and 35th Avenue that attract frequent multimodal visitors from the adjacent neighborhoods. Other neighborhood commercial cores include 35th Avenue between Van Buren Street and I-10, while 35th Avenue south of Van Buren Street offers an interesting mix of commercial and industrial uses.

MA 13 includes three City parks within the study area with two cemeteries. The two larger parks, Falcon Park and Willow Park, are located north of Van Buren Street, while the one smaller park, Yunya Park, is located south of Van Buren Street. Falcon Park is located adjacent to Carl Hayden High School and is a major destination in the study area, attracting visitors throughout the year because the park includes a public pool. All of the

parks within and around MA 13 generate multimodal activity, so ensuring safe and convenient access to and from these parks will be essential.

Figure 1: Mobility Area #13 Study Area



CHAPTER 2: REVIEW OF PERTINENT ENGINEERING, PLANNING AND POLICY DOCUMENTS

In order to develop a successful and effective plan for the City, understanding the previous planning efforts is important. Prior to this planning process several plans, studies, and reports have been completed that impact MA 13. A total of six completed or ongoing plans, studies or reports are summarized in **Table 1.** The table identifies the title of the report, the type of report and the year the report was published. The following pages directly describe the document contents and their relevance to this study.

Table 1: Review of Pertinent Engineering, Planning and Policy Documents

Title	Type	Year
2015 Phoenix General Plan	General Plan	2015
City of Phoenix Comprehensive Bicycle Master Plan	Master Plan	2014
City of Phoenix Complete Street Policy	City Policy	2017
MAG Complete Streets Guide	Design Guide	2011
NACTO Urban Street Design Guide	Design Guide	2013
NACTO Urban Bikeway Design Guide	Design Guide	2014
Tree and Shade Master Plan	Master Pan	2010
Estrella Village Core Plan	Master Plan	2009
Estrella Village Character Plan	Master Plan	-
Estrella Multi-Purpose Trail Plan	Master Plan	-
Estrella Village Plan	Master Plan	1999
Estrella Village Arterial Street Landscaping Program	Master Plan	-
Transit Oriented Development Strategy Policy Framework	Master Plan	2018

City of Phoenix General Plan

The City of Phoenix General Plan provides the vision and policies that determine Phoenix will grow and develop. This plan was updated in 2015 and addresses topics such as land use, zoning, housing, neighborhoods, transportation, environmental, natural resources, energy, and public facilities.

The PlanPHX Leadership Committee and staff identified Five Core Values (**Figure 2**) that will help achieve the Vision and embed the Community Benefits into the city. This effort begins and ends with the residents of Phoenix. These Core Values will provide the framework for the policy portion of the updated General Plan and serve as the new principles for growth and development in the city. Each of the Core Values addresses Phoenix's many assets. By building on and ultimately expanding these assets Phoenix will employ an asset-based approach to community development. This approach enhances Phoenix residents' connectivity to the benefits that all these assets provide, and further enhances Phoenix's unique character and identity.

Figure 2: 5 Core Values of PlanPHX

Source: City of Phoenix General Plan

City of Phoenix Comprehensive Bicycle Master Plan

The purpose of the City of Phoenix Comprehensive Bicycle Master Plan is to establish a direction to transform the city into a bicycle-friendly community over a 20-year timespan. The goal is to improve levels of bicycle friendliness, as defined by the League of American Bicyclists' Bicycle Friendly Communities program. Phoenix received an Honorable Mention in 2011, but the next goal is a Bronze Award, and then progressing up to the Platinum level as the projects recommended out the Bicycle Master Plan are implemented over time. The approach of the master plan depicted **Figure 3**, called for a prioritization of corridors into the three separate tiers.

The following information describes the projects for each of the three prioritization tiers:

1. Completion of Tier I corridor projects will add 32 miles of bikeways and improve bicycle safety and mobility through 50 intersections. The planning level in-house cost estimate to implement these projects is $4,031,000.
2. Completion of Tier II corridor projects will add 33 miles of bikeways, make an important connection across the I-17 freeway, and improve bicycle safety and mobility through 108 intersections. The planning level in-house cost estimate to implement these projects is $14,008,000. An additional $9,320,000 would be invested to pave the Grand Canal Trail.
3. Completion of Tier III corridor projects will add 55 miles of bikeways and improve bicycle safety and mobility through 125 intersections. The planning level in-house cost estimate to implement these projects is $10,798,000. An additional $14,550,000 would be invested to pave the Arizona, Highline, Western, and CAP Canal Trails.

Figure 3: Iterative Approach to Using the Bicycle Corridor/Project Prioritization Methodology

Source: City of Phoenix Comprehensive Bicycle Master Plan

City of Phoenix Complete Streets Policy

On June 28th, 2017, the City Council adopted the City of Phoenix Complete Streets Policy to further advance its goals to create a more sustainable transportation system that is safe and accessible for all users. Complete streets provide an environment that encourages walking, bicycling, transportation choices and increased connectivity.

Through this policy, the primary focus of street design will no longer be solely on the speed and efficiency of automobile travel, but on the safety and comfort of all users of the public right-of-way (ROW).

When designing, constructing and improving rights-of-way, including those in MA 13, City staff will incorporate this Policy to ensure the City's rights-of-way:

- Are planned, designed, constructed, operated, and maintained with the ultimate goal of serving a variety of transportation modes
- Will contribute to active transportation and public health
- Accommodate transportation users of all ages and abilities
- Are economically and environmentally sustainable
- Are designed to be compatible with the surrounding contexts and connecting transportation networks
- Comply with state and federal law and City code and Ordinance S-41094
- Follow the Complete Streets Planning and Design Principles which will be integrated into the Street Transportation Design Guidelines
- Provide new or improved connectivity between all transportation modes and adjacent land uses.

Figure 4: Example of Complete Street in Phoenix

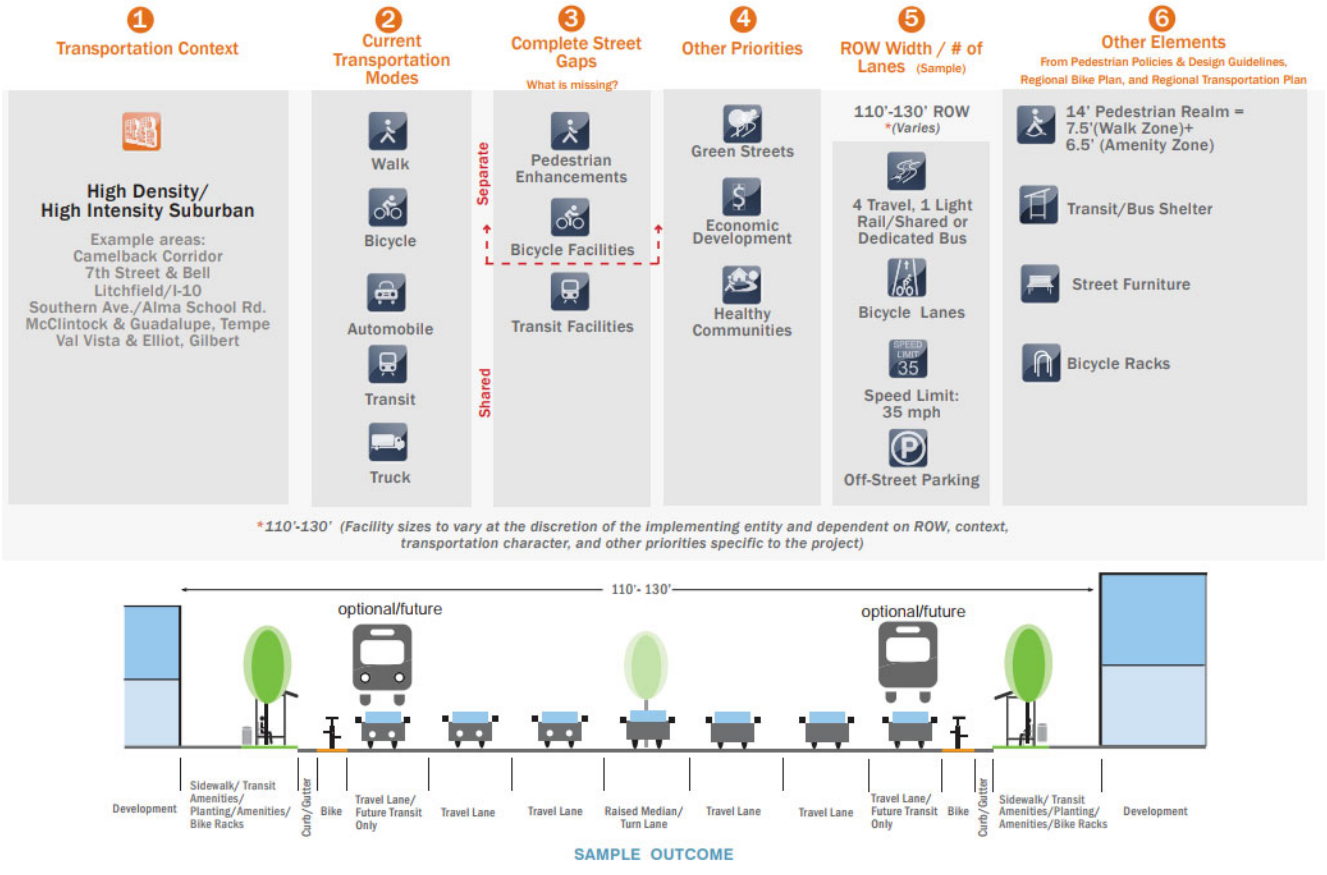
Source: City of Phoenix Complete Streets Initiative

Maricopa Association of Governments (MAG) Complete Streets Guide

The MAG Complete Streets Guide is a step to ensuring that facilities for bicycles, pedestrians, and transit are recognized as integral to a properly designed and functioning street. This policy guide provides sample outcomes, examples of best practices, and policy guidance to help ensure that all new and retrofitted streets in the MAG region serve as many transportation modes as practical and possible. The MAG Complete Streets Guide includes on information on the benefits of Complete Streets, what the MAG region is trying to accomplish with this Guide, how to plan a Complete Street in the MAG region, Complete Street plans and policies in other locations, and how to implement this Guide.

Portions of MA 13 would be categorized as both High Density/High Intensity Urban and Suburban Context, so planning techniques for those development contexts will be used in conjunction with the City's Complete Streets Policy when developing the framework for recommendations related to complete streets within Study Area.

Figure 5: Complete Street Planning Process for High Density/Intensity Suburban Context



Source: Maricopa Association of Governments Complete Streets Guide

NACTO Urban Bikeway Design Guide

The purpose of the Urban Bikeway Design Guide published by National Association of City Transportation Officials (NACTO) is to provide cities with state-of-the-practice solutions that can help create complete streets that are safe and enjoyable for bicyclists. The designs in this document were developed by cities for cities, since unique urban streets require innovative solutions. Most of these treatments are not directly referenced in the current version of the AASHTO Guide to Bikeway Facilities, although they are virtually all (with two exceptions) permitted under the Manual of Uniform Traffic Control Devices (MUTCD).

MA 13 is located in an Urbanized area. The design parameters referenced in the Urban Bikeway Design Guide shall be recognized in conjunction with City of Phoenix and MAG policy guidance during the design of the bike infrastructure for this corridor.

Figure 6: Example of a Buffered Two-Way Cycle Track

Source: NACTO Urban Bikeway Design Guide

NACTO Urban Street Design Guide

The NACTO Urban Street Design Guide shows how streets of every size can be designed to focus on safe driving and transit, biking, walking, and public activity. Unlike older, more conservative engineering manuals, this design guide is graphic oriented and has an emphasis on urban streets as public places and have a different function within communities' other than exclusively being corridors for traffic.

This Guide will be the toolbox and unveil tactics to use to make streets safer, more livable, and more economically vibrant in MA 13. The Guide outlines both a clear vision for complete streets and a basic road map for how to bring them to fruition during the planning process.

Figure 7: Conceptual Design of a Raised Intersection

Source: NACTO Urban Street Design Guide

City of Phoenix Trees & Shade Master Plan

The Tree and Shade Master Plan presents Phoenix's leaders and residents a roadmap to create a healthier, more livable and prosperous 21st Century desert city. The urban forest is the keystone to creating sustainable infrastructure because it achieves many goals of the city with one single investment – a single tree. Trees create walkable streets and vibrant pedestrian places, and according to the Trees and Shade Master Plan, for every dollar invested in the urban forest results in an impressive return of $2.23 in benefits.

However, creating a more sustainable and leviable city through a trees and shad initiative will require more than just planning and planting trees. The current planting, maintenance and irrigation practices are killing many valuable trees; additionally, these practices waste hundreds of thousands of gallons of water annually. In order to maximize the investment, these practices and many others will have to be addressed. For this reason, the plan focuses on a canopy goal instead of a numerical planting goal. Often, numerical planting goals lead to the wrong tree species being planted in an inappropriate location, resulting in higher maintenance cost and the eventual loss of the tree.

Figure 8: Trees & Shade Master Plan Trajectory of Change

The current state of Phoenix's urban forest is of immediate concern. In order to see the full benefits of the urban forest, a significant long-term investment must be made into its enhancement and maintenance. This plan provides a detailed roadmap to improve and increase the current health of the urban forest resource. As shown in **Figure 8**, known as the trajectory of Change, the plan is organized into three sections: one section for each goal with recommendations and action items for each. The three sections include:

1. Raise Awareness/Educate;
2. Preserve – Protect – Increase; and,
3. Sustainable – Maintainable – Infrastructure.

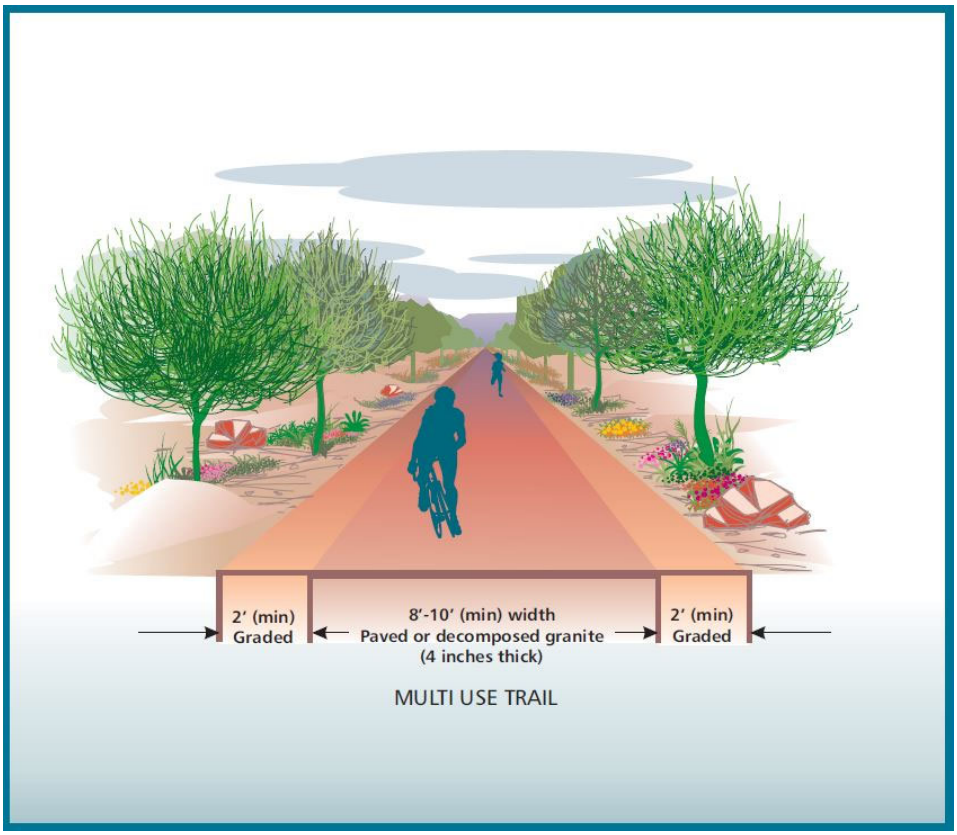
Estrella Village Plan

The Estrella Village consists of 41 square miles south of Interstate 10, east of Interstate 17 and 19th Avenue, north of the Salt River, and west of 107th and 83rd Avenues. It borders both Avondale and Tolleson to the west and downtown Phoenix to the east and contains the Sun Circle Trail. The plan presents a vision for the Estrella Village with the following five goals, each goal contains associated objectives and strategies within the plan:

1. Orderly Growth
2. Identifiable Village Core
3. Strong Residential Neighborhoods
4. Variety of Homes and Jobs
5. Consistent Streetscapes and Trail Linkages

The plan provides recreational trail standards and a multi- use trail cross section, as well as further detail for the Estrella Village Core which is not in proximity nor pertinent to the MA 13 Study area.

Figure 9: Estrella Village Multi-Use Trail Cross Section



Estrella Village Core Plan

The Estrella Village Core within the greater Estrella Village is bordered by 59th Avenue to the east, the Elwood Street alignment to the south, 63rd Avenue to the west, and the Roosevelt Canal to the north. The General Plan Designation for this area is Mixed Use. It appears that since the preparation of this report, very little new development has occurred in the Core. The Core contains the proposed Salt River alignment of the Loop 202 South Mountain Freeway, which is currently under construction. This plan outlines key principles and design guidelines for the Core, however it is not relevant to the Van Buren Corridor Study area.

Figure 10: Estrella Village Context Map

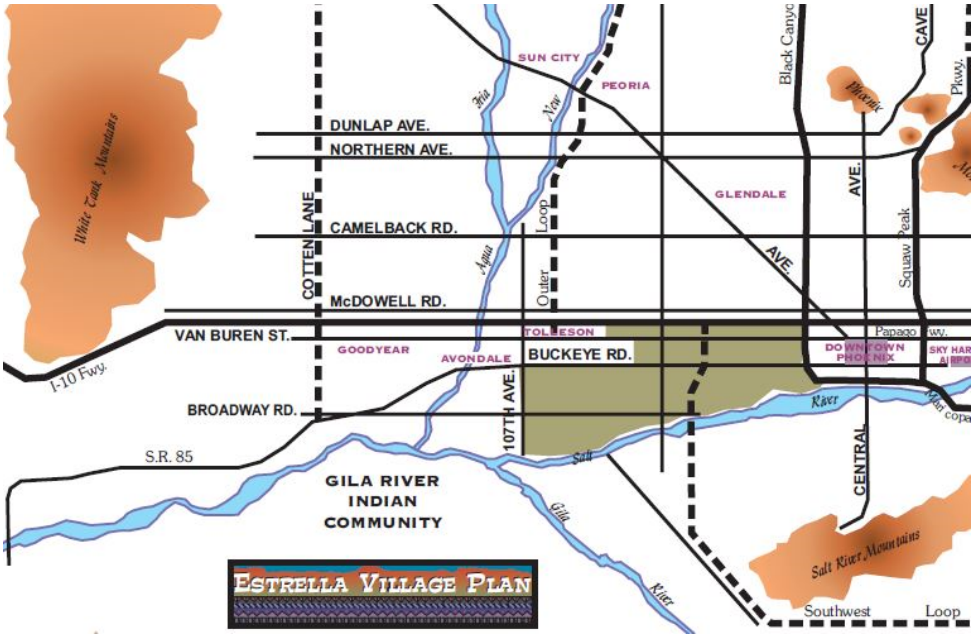


Figure 11: Estrella Village Core Map

The Estrella Village Character Plan

This Plan builds upon other existing plans for the Village and introduces land use principles, design principles, outlines opportunities for growth and investment, as well as goals and next steps. The Plan also highlights public parks, including Falcon Park (in MA 13), Santa Maria Park, and Sunridge Park as Village assets.

Land Use Principles encourage new development to locate near transportation alternatives. Design Principles address pedestrian friendly environments surrounding economic centers, providing multi-use trail connections where appropriate, Crime Prevention Through Environmental Design (CPTED) guidelines, promoting access (both physical and visual) to parks and open space, and new development providing convenient pedestrian and bicycle access to transit stops, schools and other neighborhood amenities.

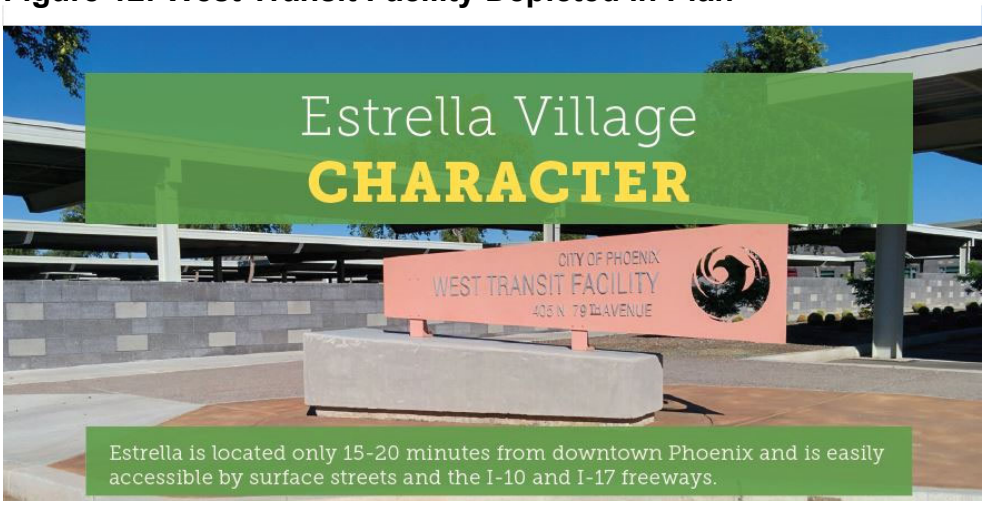
Mobility-Related Opportunities for growth and investment include:

- Degrading Street Conditions & Severe Traffic Problems,
- Managing Street Maintenance Issues and Responsibilities Among Various Jurisdictions,
- Managing Future Growth Along the Salt River Bottom, and
- Preserving Robust Setback and Landscaping Standards Along Buckeye Road,

Mobility-Related Goals include:

- Support street improvement projects that improve right-of-way conditions,
- Support public & private efforts to develop quality public parks, bike lanes, public art, youth sports fields, and other amenities,
- Maintain consistency in setbacks and landscaping along Buckeye Road, and
- Ensure that development along the Salt River bottom is consistent in scale and character with existing properties in the surrounding area.

Figure 12: West Transit Facility Depicted in Plan

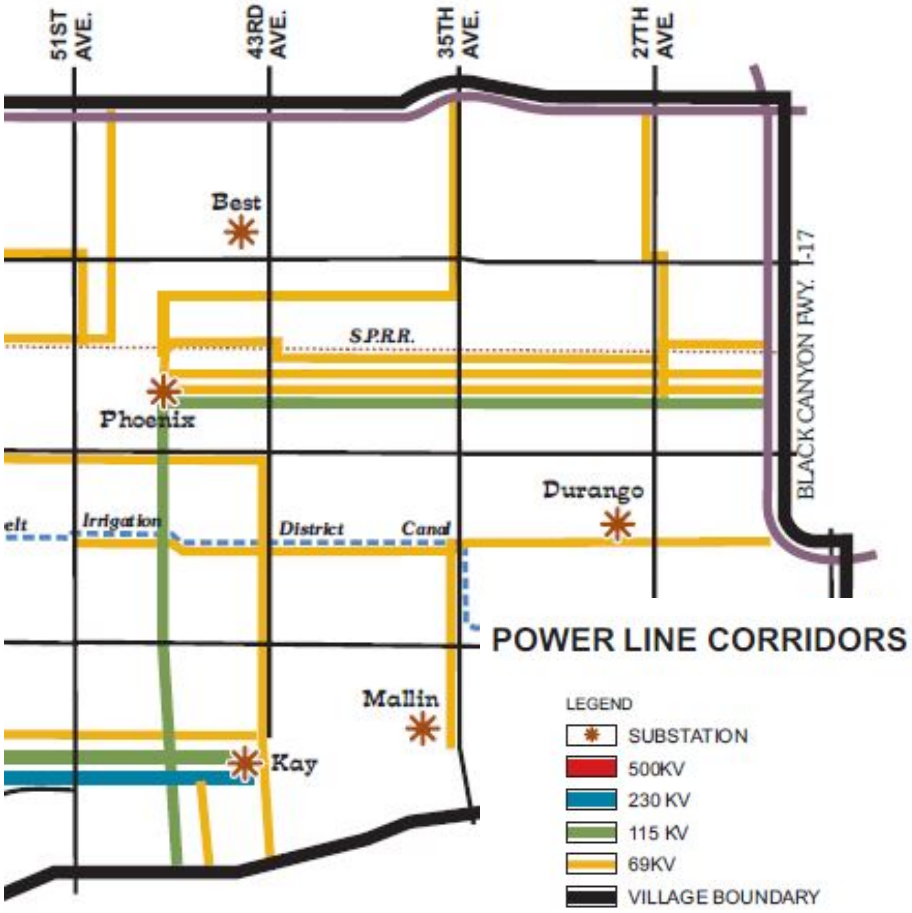


The Estrella Village Multi-Purpose Trail Plan

This plan addresses the future community trail system in accordance with the City-wide trail system recommended in the Phoenix General Plan. It states that the network will be "an integral part of the village linking residential neighborhoods with village activity centers such as the Core, schools, Rio Salado, and employment areas". The trails in the plan are intended to serve joggers, equestrians, and walkers, however bicyclists can use the trail, or the separated bike lanes along arterial roadways.

The Plan further provides trail design guidelines addressing signage, recreational activities, crosswalks, trail locations and trail maintenance, as well as a Multi- Use Trail Cross Section (included from the Estrella Village Master Plan). The Plan encourages the use of canals and power line corridors as creative off-street locations. While no multi- use trails are planned in the Van Buren Corridor Study Area, the study area does contain power line corridors that could be utilized for recreational access.

Figure 13: Estrella Village Power Line Corridors



The Estrella Village Arterial Street Landscaping Program

This program outlines a landscape palette for major roadways within the Estrella Village and guides developers that locate along these roadways in landscaping the perimeter of their properties to achieve the City of Phoenix, and Village visions. Details are provided as to the density and mix of landscaping necessary, the specific tree and plant species that are appropriate and maintainable, and the themes for the gateway intersections throughout the Village.

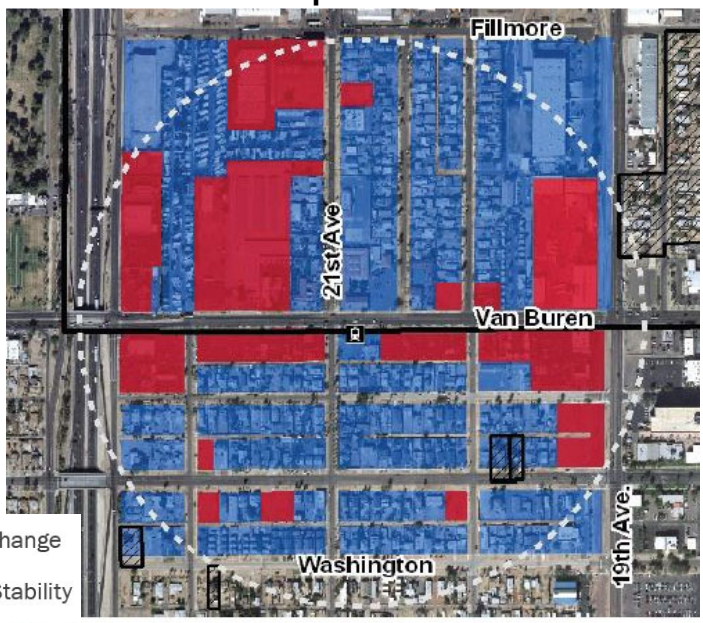
One of these gateway intersections is within the MA 13 Study Area, the 27th Avenue landscaped gateway south of Interstate 10. The gateway concept is "Welcome to Estrella Village" and would be located at the arterial entrance from the interstate. This condition is expected to be a recommended stipulation of a rezone, or a development building permit of over 2,000 square feet or greater. The program provides further details of gateway options and guidance.

The Plan provides a complete list of trees and plants to choose from as well as their appropriate placement, and the following ratios of plantings: seventy percent shrubs (trees excluded), twenty percent ground cover, and ten percent accent plants, making for a diverse, and easy to maintain, attractive mix.

Transit Oriented Development Strategic Policy Framework

This Framework defines a Transit Oriented Development (TOD), its benefits, and its significance in the City of Phoenix. With the success of the light rail, and planned extensions, this plan will serve as an important guide to the Van Buren Corridor as the West Extension becomes a reality. With stops planned near 22nd Avenue and Van Buren (Historic Neighborhood Center TOD Place Type), as well as 35th Avenue and the I-10 (Neighborhood Center TOD Place Type), this study area will one day be impacted by the near-by light rail stations and see the expansive benefits of these TOD's. The plan provides policies, methods, objectives, and implementation guidance. Furthermore, it highlights the St. Matthews Neighborhood Transition Areas.

Figure 14: St. Matthew's Neighborhood Transition Areas Map



CHAPTER 3: EXISTING FEATURES INVENTORY

Chapter 3 provides an overview of the existing conditions and features of MA 13. This includes the latest information related to population demographics, existing land use and zoning, housing, property ownership, infrastructure (stormwater, sewer, water, power, gas, and broadband), and transportation facilities. Each of these topics is described in greater detail in this section. The data summarized is this section was either collected through a series of extensive site visits or provided to the project team by the City in electronic format. Where recent data could be collected, supporting figures and tables have been provided.

Existing Land Use & Zoning

Land Use

The existing land use is reviewed early in the planning process to develop a sense of how various land uses define the character of the planning area. As shown in **Figure 15,** the predominant land use type is detached single-family residential land use with 3.5 to 5 dwelling unit per acre (du/acre). This is particularly evident north of Van Buren Street from 27th Avenue to 35th Avenue where the Willow Square, North Willow and Terra Del Sol neighborhoods are located. Residential areas south of Van Buren Street from 27th Avenue to 33rd Avenue include the Westland Homesites, Warren, Hyde Park and Washington Park neighborhoods. Non-residential uses include the three different schools, the commercial centers and establishments fronting Van Buren Street and 35th Avenue, and industrial uses along the BNSF railroad and in the southeast corner of the study area.

Zoning

In addition to the early review of existing land uses, existing zoning is also reviewed to understand the regulatory zoning framework that exists and its current and future impact on multimodal trip generation in MA 13. **Figure 16** illustrates the existing zoning within MA 13, indicating the predominant zoning category as Single-Family (SF) Residential. MA 13 has Multi-Family Residential zoning sprinkled throughout the study area located along arterial streets and a concentration in the northeast and southwest corners. The commercial zoning pattern is similar to the typical zoning practice adjacent to the major arterial corridors including Van Buren Street, 35th Avenue, and parts of 27th Avenue. In the southern section of MA 13 lies a strip of industrial zoning adjacent to the BNSF railroad. MA 13 also includes a small portion of the Black Canyon/Maricopa Freeway Specific Plan zoning overlay district.

Figure 15: Existing Land Use

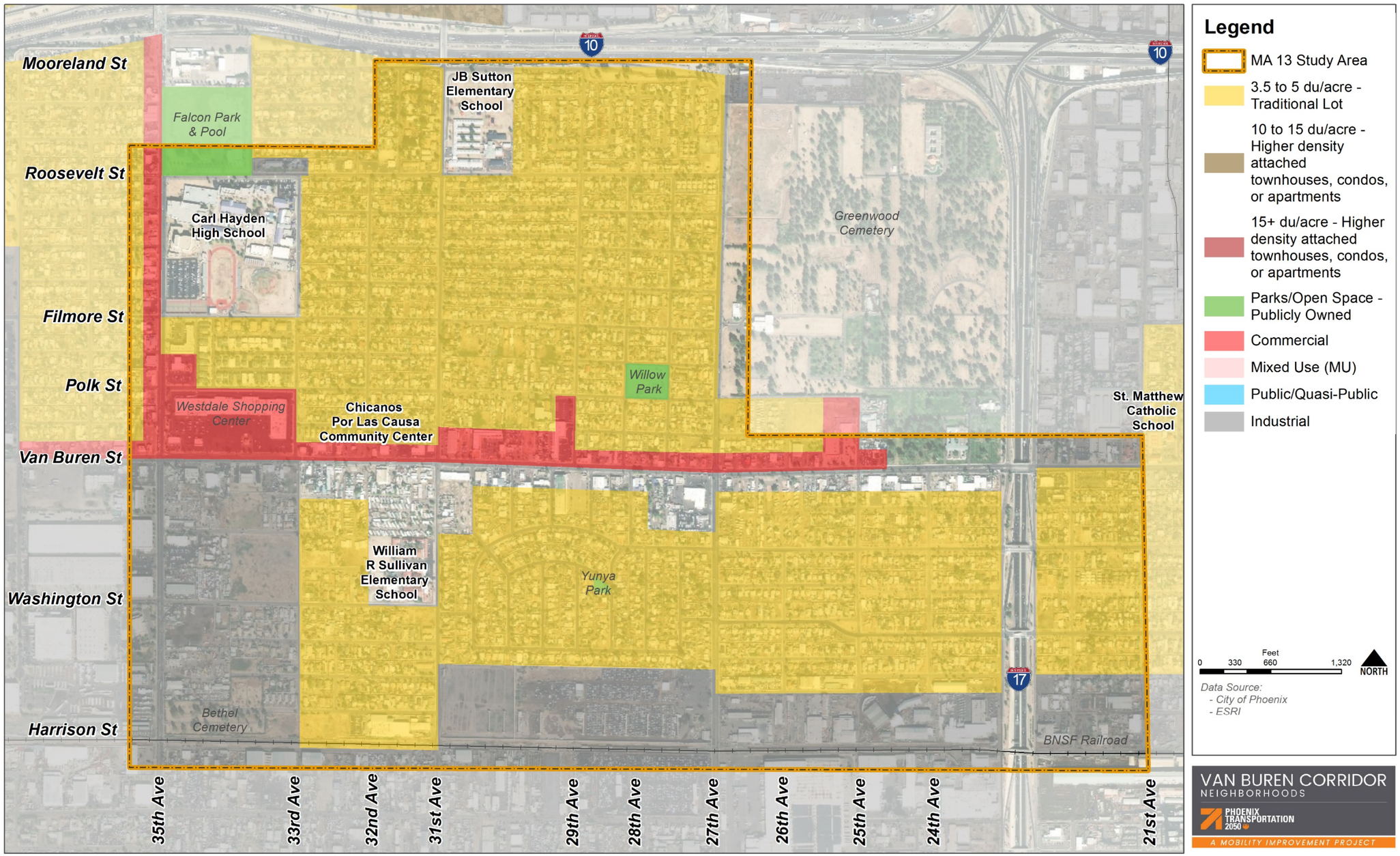


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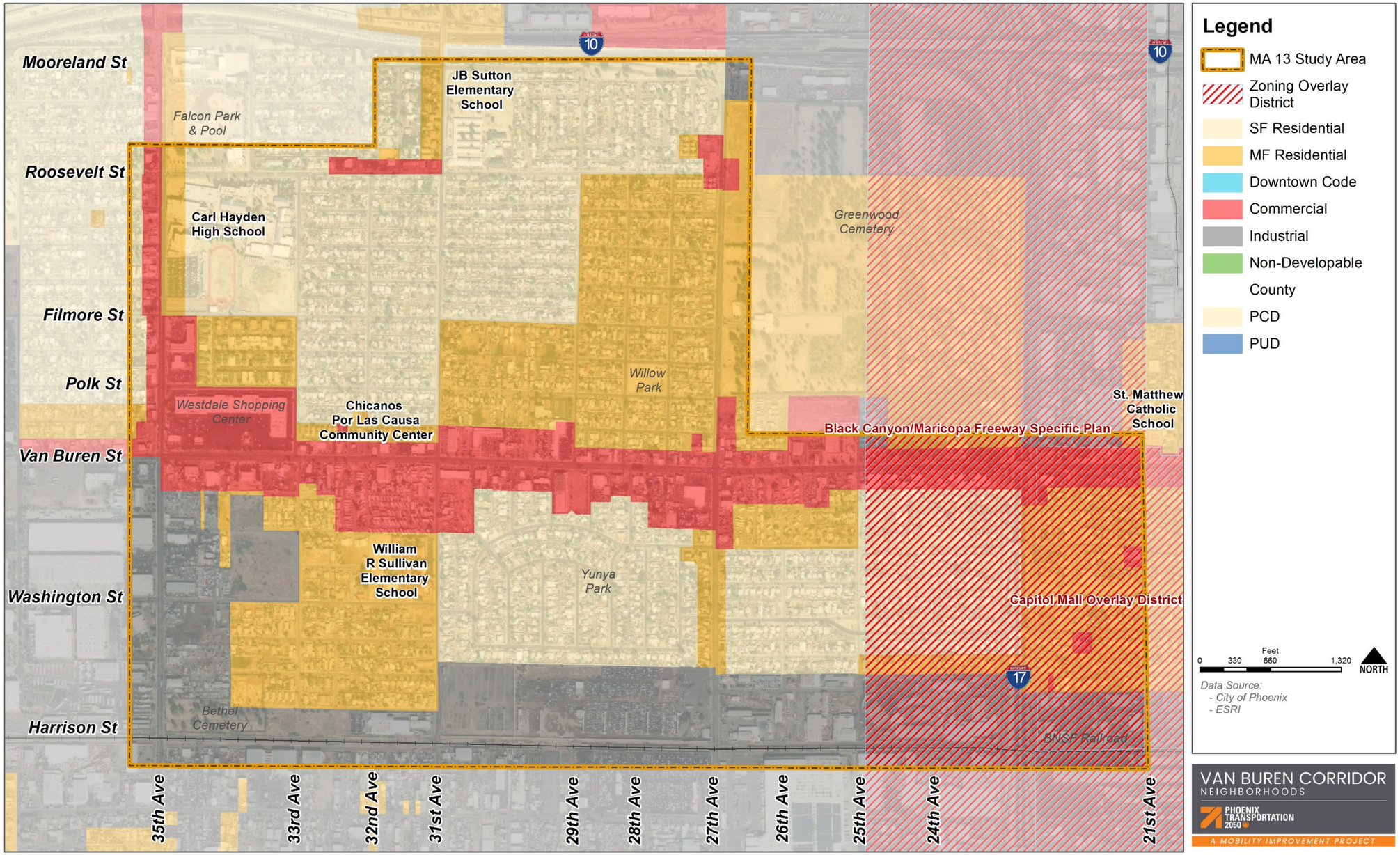
Figure 16: Existing Zoning



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City Owned Properties

There are only four city owned properties in MA 13 as shown in **Figure 17**. The properties are owned primarily by the City's Parks and Recreation Department. These city owned parks include Flacon Park, Willow Park, and Yunya Park. However, there is one small parcel of land owned at by the City's Streets Transportation Department at 25th Avenue and Washington Street.


Falcon Park

Major Assets

Assets are the primary destinations and trip generators of the community. These include major employers, schools, historic buildings, community organizations, initiatives, institutions and infrastructure. Asset mapping helps inform the planning process by creating an inventory for preserving, improving or further supporting the areas existing resources, while also identifying where residents and visitors will likely be traveling to and from. The major assets within MA 13 are depicted in **Figure 18** and outlined below:

1. Sinaloa Plaza
2. Super Carniceria El Dorado
3. Coin Laundromat
4. Kingdom of Life Center Church
5. Iglesia Ministerio Familia De Dios (Church)
6. Valle del Sol
7. Santo Nino Catholic Community
8. Iglesia Adventista Del Septimo Dia (Church)
9. Fiesta Market
10. Evangelical Church
11. The Universal Church
12. Templo Agua Viva (Church)
13. Chicanos Por La Cause Community Center
14. Van Buren Medicine
15. Cowden Plaza, Food City
16. Plaza De Lilly
17. Used Auto Parts/Equipment
18. R&B Recycling Center
19. Dollar General
20. Pep Boys, Circle K, Pete's Fish & Chips
21. Wells Fargo
22. Fillmore Plaza (neighborhood services)
23. Active Learning Center
24. Your Neighborhood Healthcare Center
25. Watermill Express
26. McDonalds, Burger King, Little Caesars
27. Westdale Center (Food City + shops)
28. William R. Sullivan Elementary School
29. Misc. Commercial Services
30. St. Matthews Catholic Church/School
31. Willow Park
32. JB Sutton Elementary School

Figure 17: City Owned Parcels

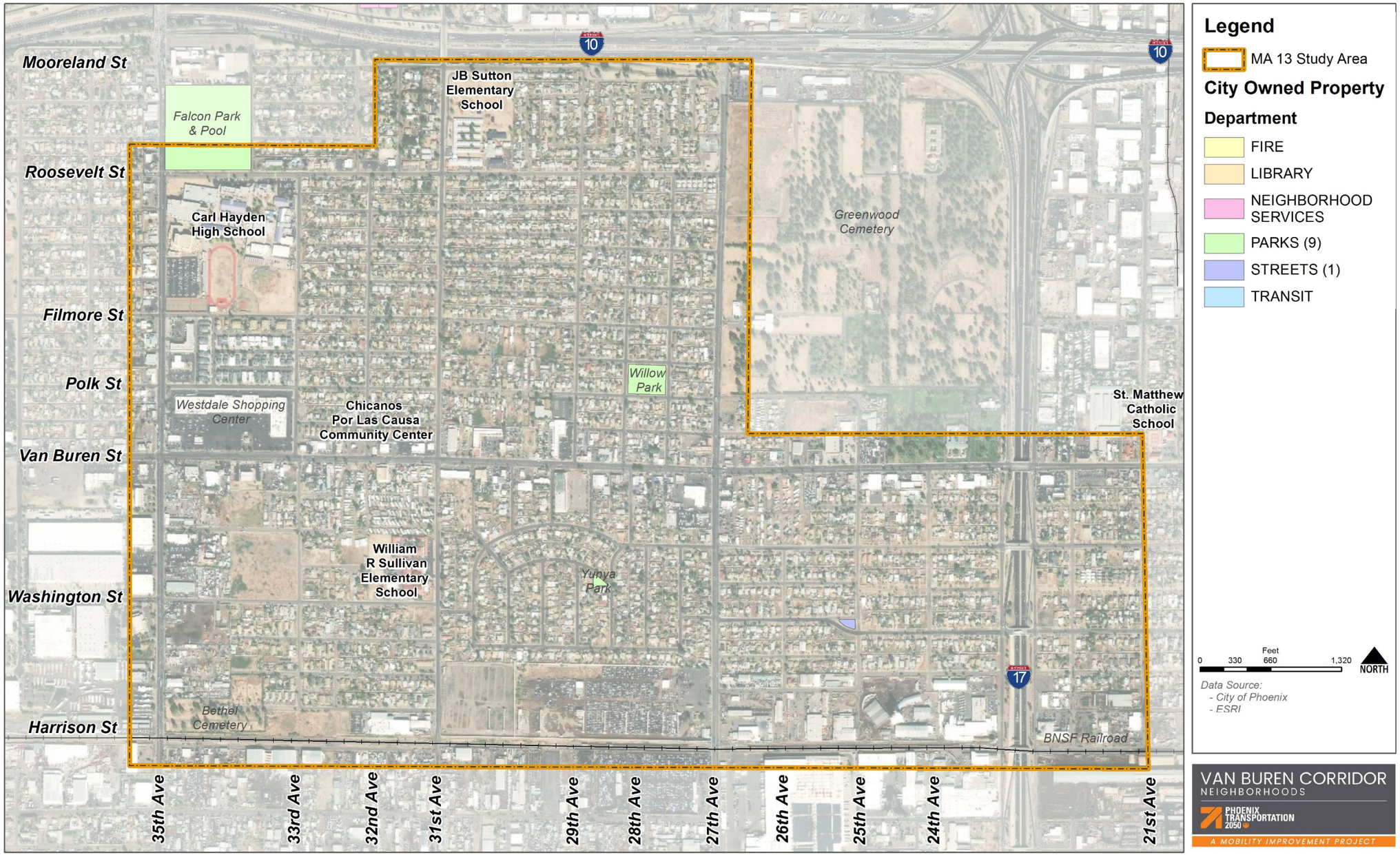

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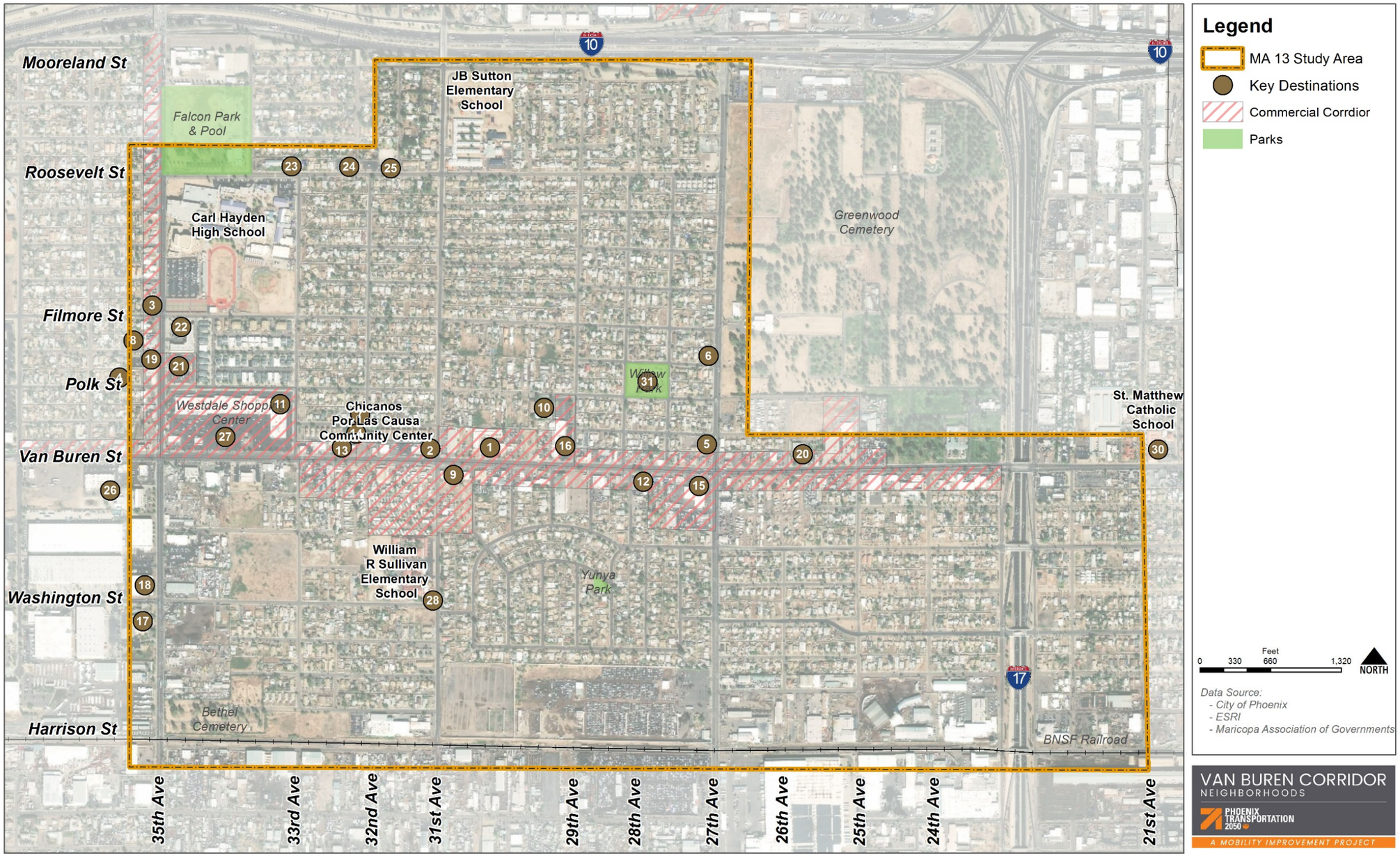
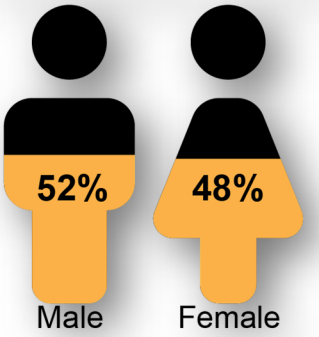
Figure 18: Major Assets



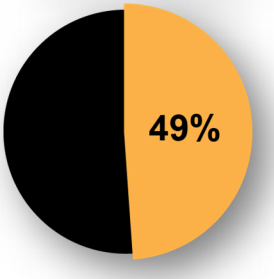
Existing Socioeconomic Conditions in MA 13

This section offers an overview of the demographic, social and economic characteristics of MA 13. The data in used to generate **Figure 19** through **Figure 26** were developed from the MAG Demographic Viewer which generates data from American Community Survey (ACS) conducted by the US Census Bureau.

Total Population: 10,569



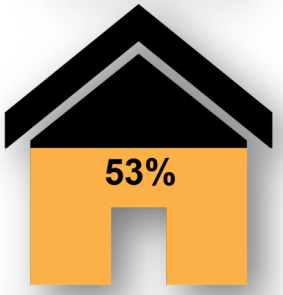
Poverty Status



Percent of People with a High School Education

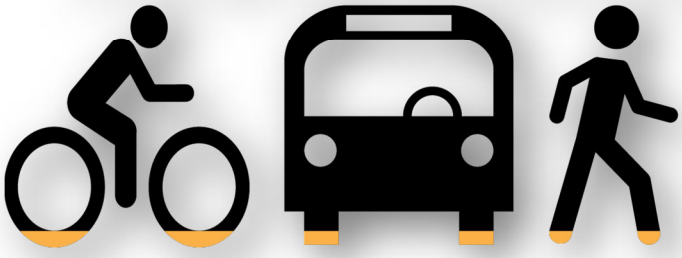
Percent of People with Limited English Proficiency

Renter Occupiued Housing Units



Total Number of Housing Units: 3,457
19.7% Vacant

9% Walk, Bike, or take Public Transit to Work



16% Zero-Vehicle Households

Figure 19: Total Population Density (Per Sq. Mile)

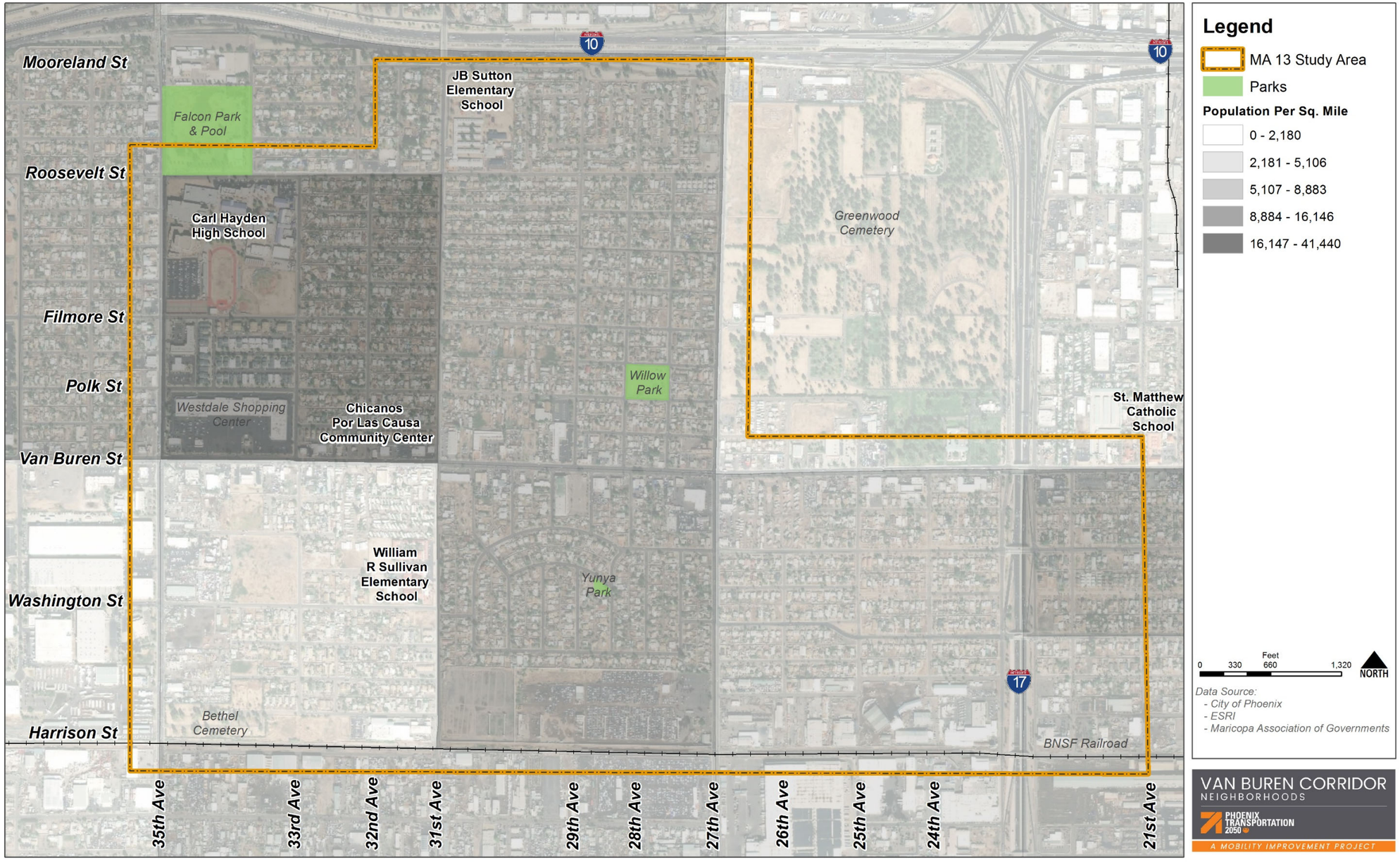


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Figure 20: Total Housing Units

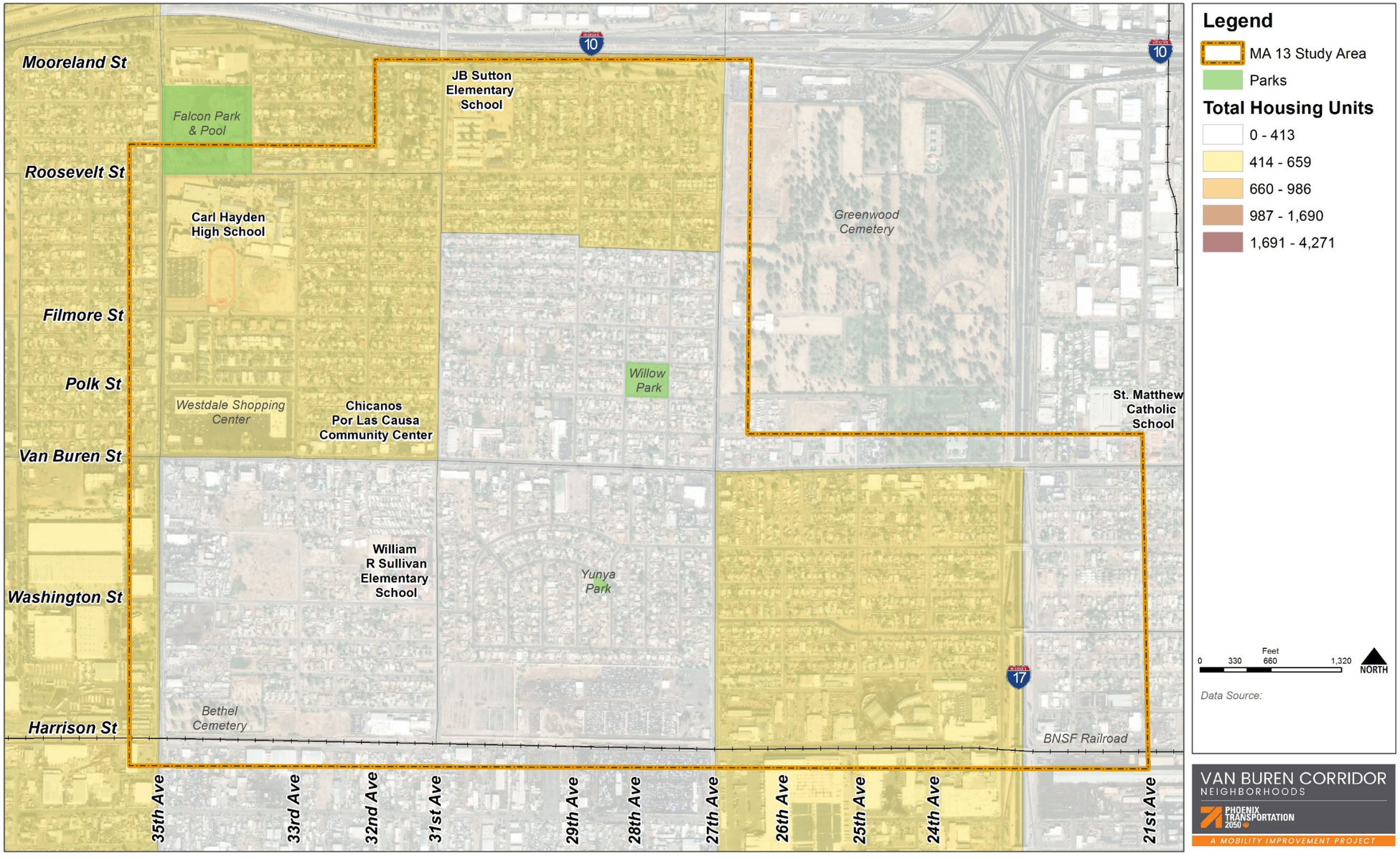

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Figure 21: Percent of Population Living Below Poverty Level

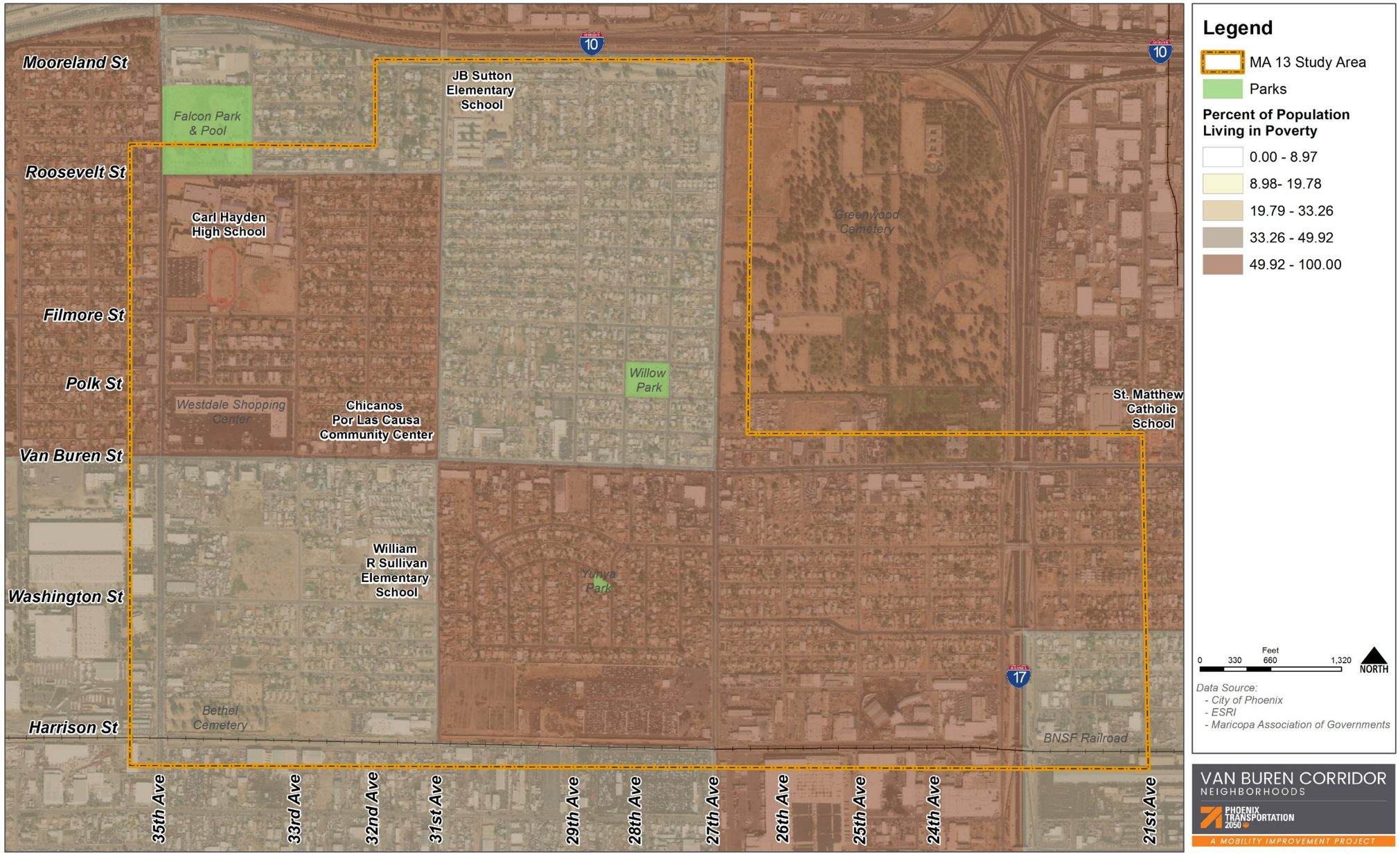

Figure 22: Percent Minority Population

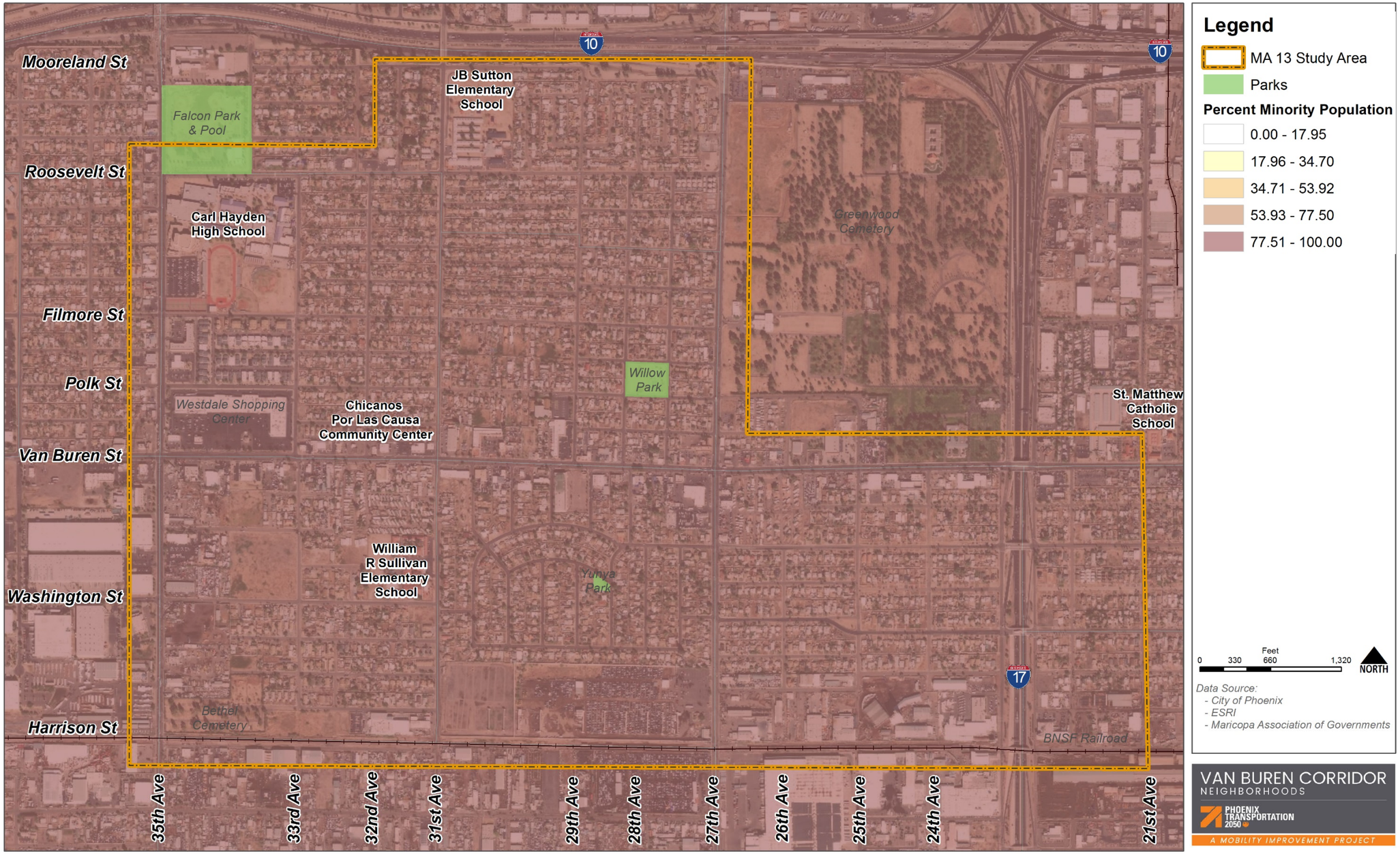

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Figure 23: Percent No-Vehicle Households

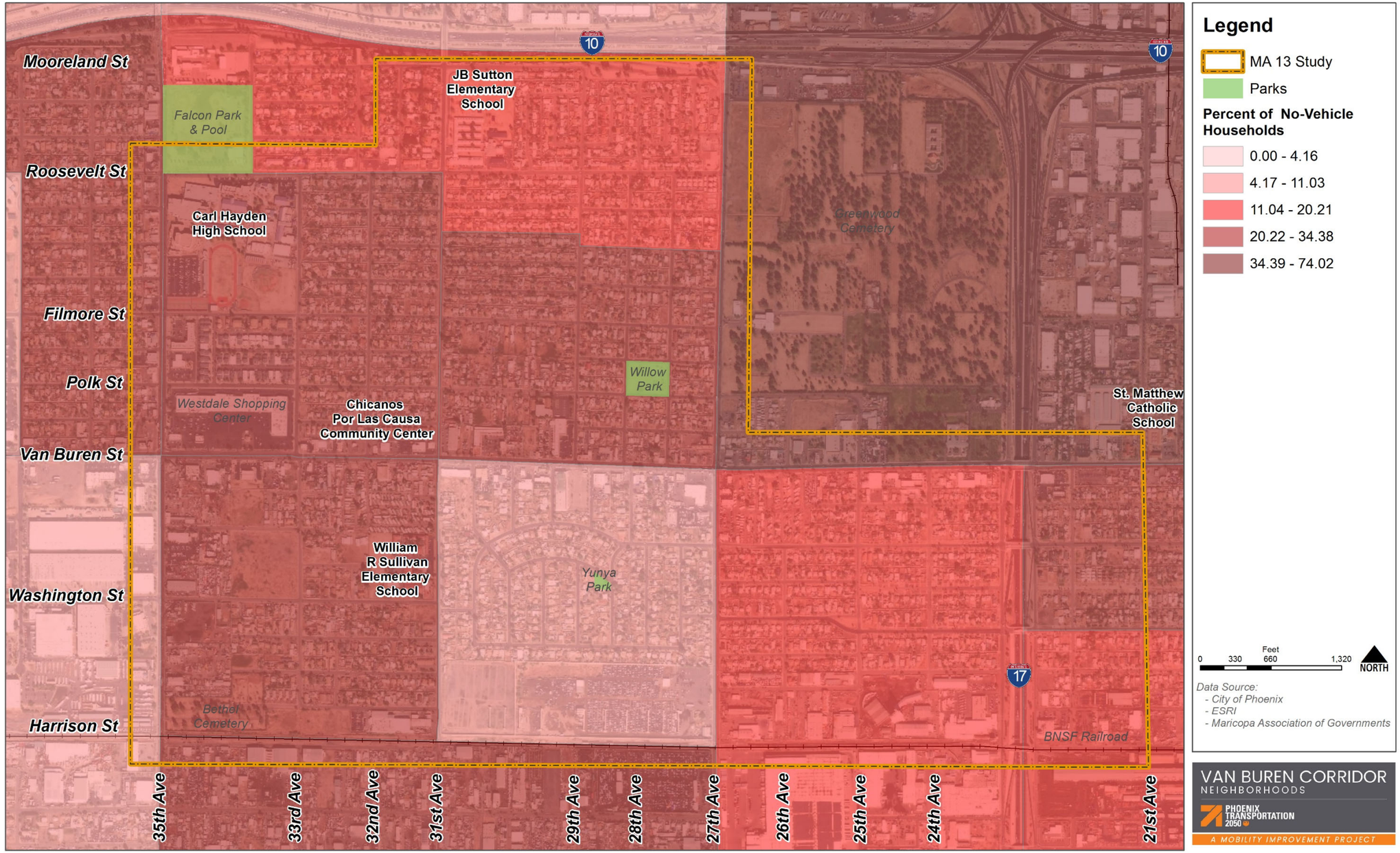

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Figure 24: Percent of Population that Bike to Work

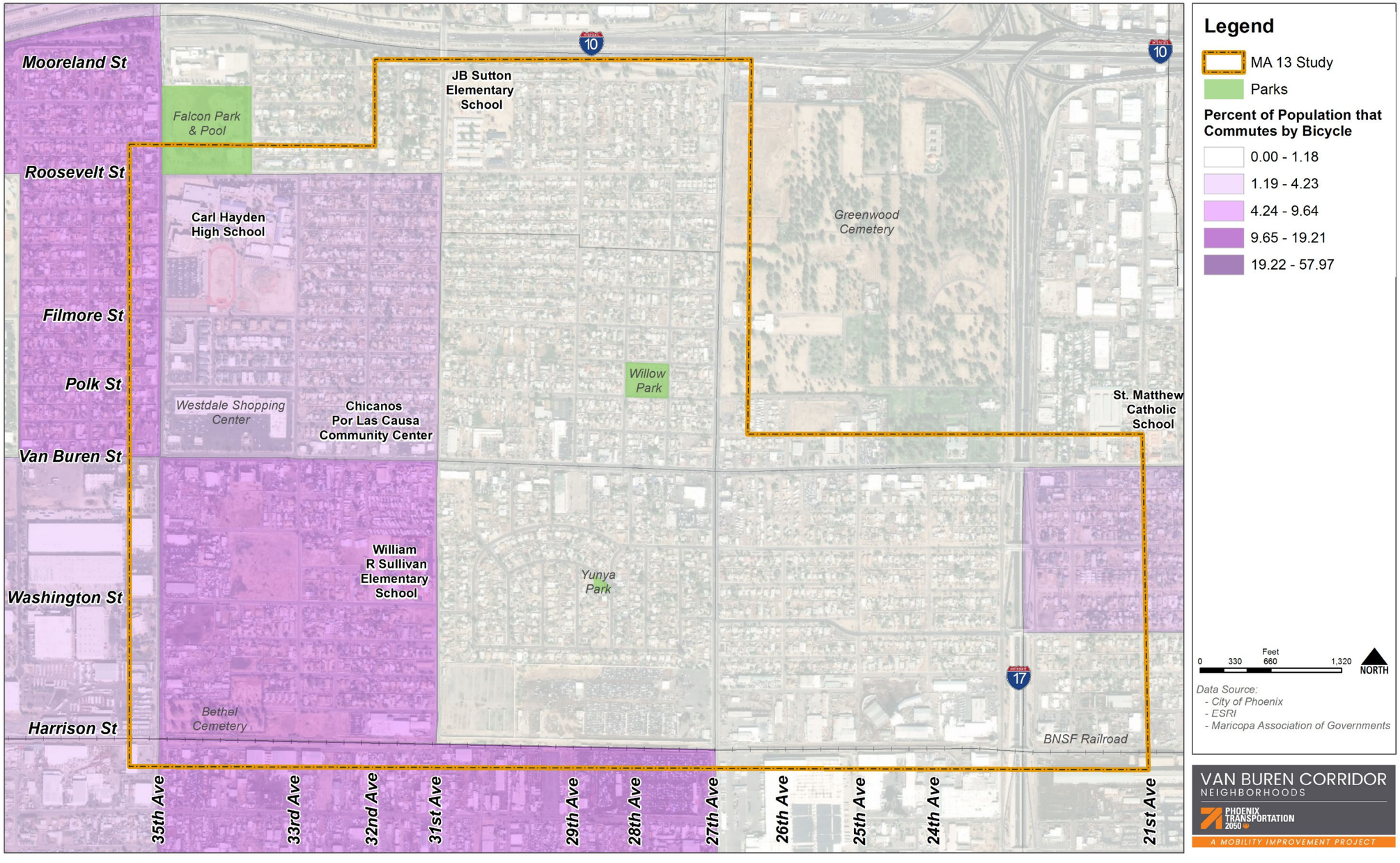

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Figure 25: Percent of Population that Walk to Work

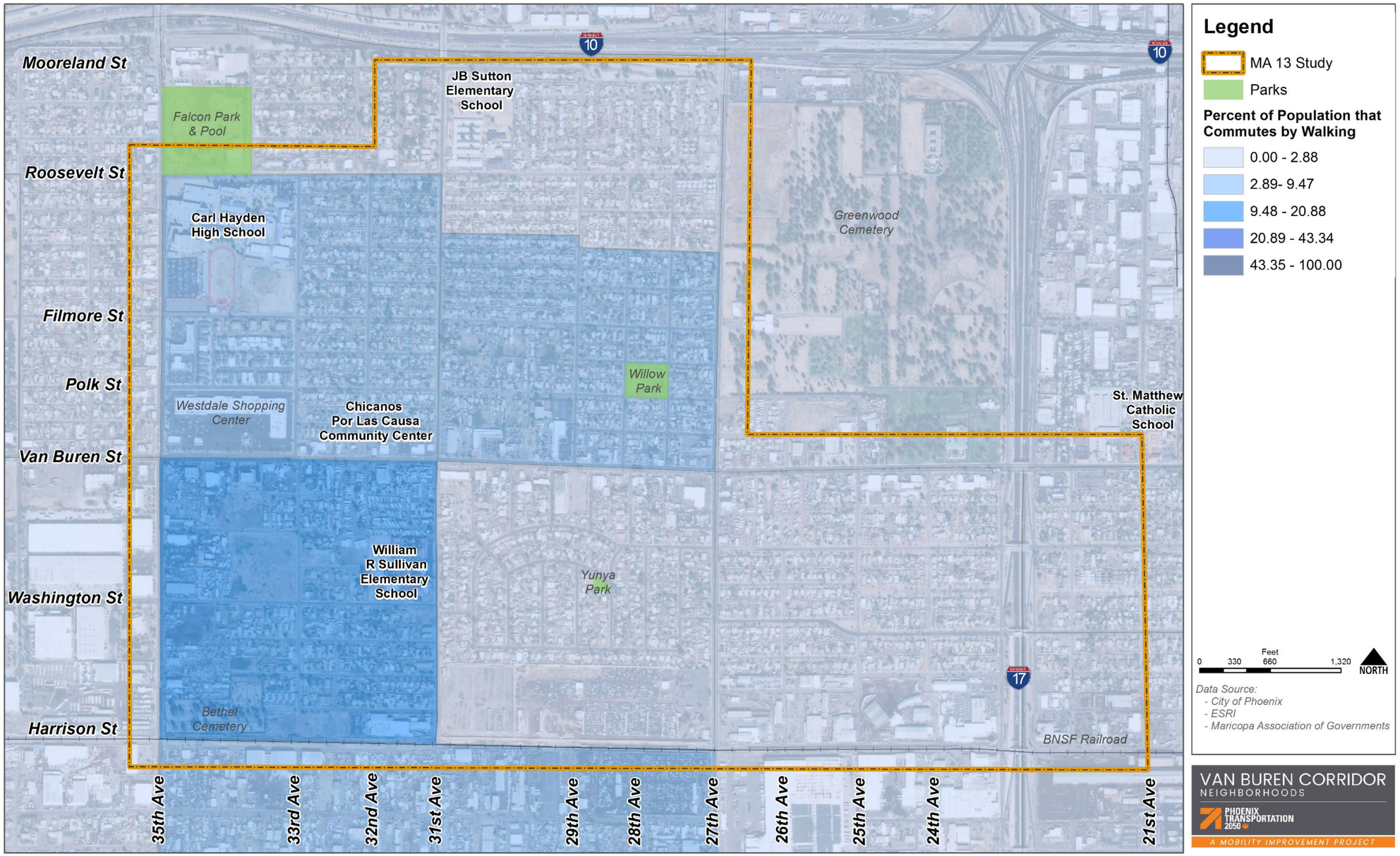

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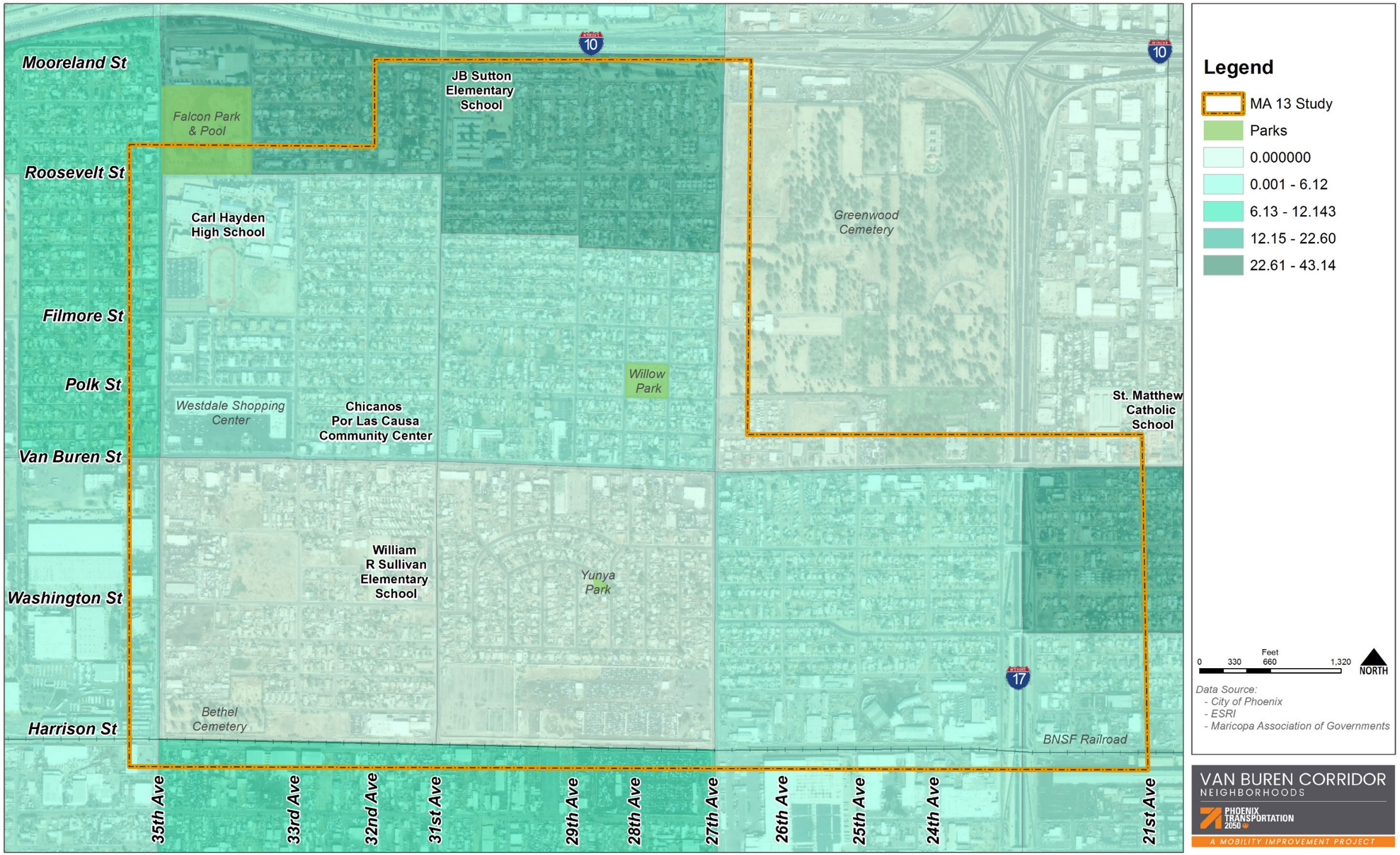
Figure 26: Percent of Population that take Public Transit to Work



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CHAPTER 4: EXISTING ROADWAY AND TRAFFIC CONDITIONS

The major elements of the existing transportation system in MA 13 are inventoried and documented in this section. The status or existing condition of each element are also summarized and illustrated. Major elements include pavement cross-sections and conditions and non-motorized modes of transportation such as bikeways, sidewalks and transit stops/routes within MA 13.

Roadway Functional Classifications

Roadway functional classifications are the grouping of streets and highways into classes according to the level of service in which they are intended to provide. **Figure 27** depicts the current functional classification of the roadways within the MA 13 study area. The City of Phoenix functional classification map identifies arterial and collector roadways only. Roadways within the study area that are not classified as arterial or collector roadways based on the City of Phoenix functional classification map are assumed as local roads (and thus not labeled in **Figure 27**).

Existing Vehicular Traffic Volumes

The City of Phoenix provided the 24-hour hourly traffic volume data for the roadways within the MA 13 study limits. The dates when the traffic volume data was collected varied from August 2003 to July 2017. For clarity, **Figure 28** only depicts the 24-hour average daily traffic volumes collected between the years 2011 and 2016 on roadways within the MA 13 study area. The primary north-south roadways in MA 13 include 35th Avenue, 31st Avenue and 27th Avenue. The traffic volumes on 35th Avenue (arterial with I-10 interchange access) is significantly higher than the other two north-south roadways, experiencing daily traffic of around 35,000 vehicles where 27th Avenue has about 20,000 vehicles, with 31st Avenue, as a collector roadway, only having about 5,000 daily vehicles. There is generally more northbound traffic on 35th Avenue and 27th Avenue due to vehicles accessing I-10. Van Buren Street is the primary east-west arterial roadway within the study area which experiences between 25,000 to 30,000 vehicles day.

35th Avenue looking southbound at Filmore

Figure 27: Functional Classification of Roadways

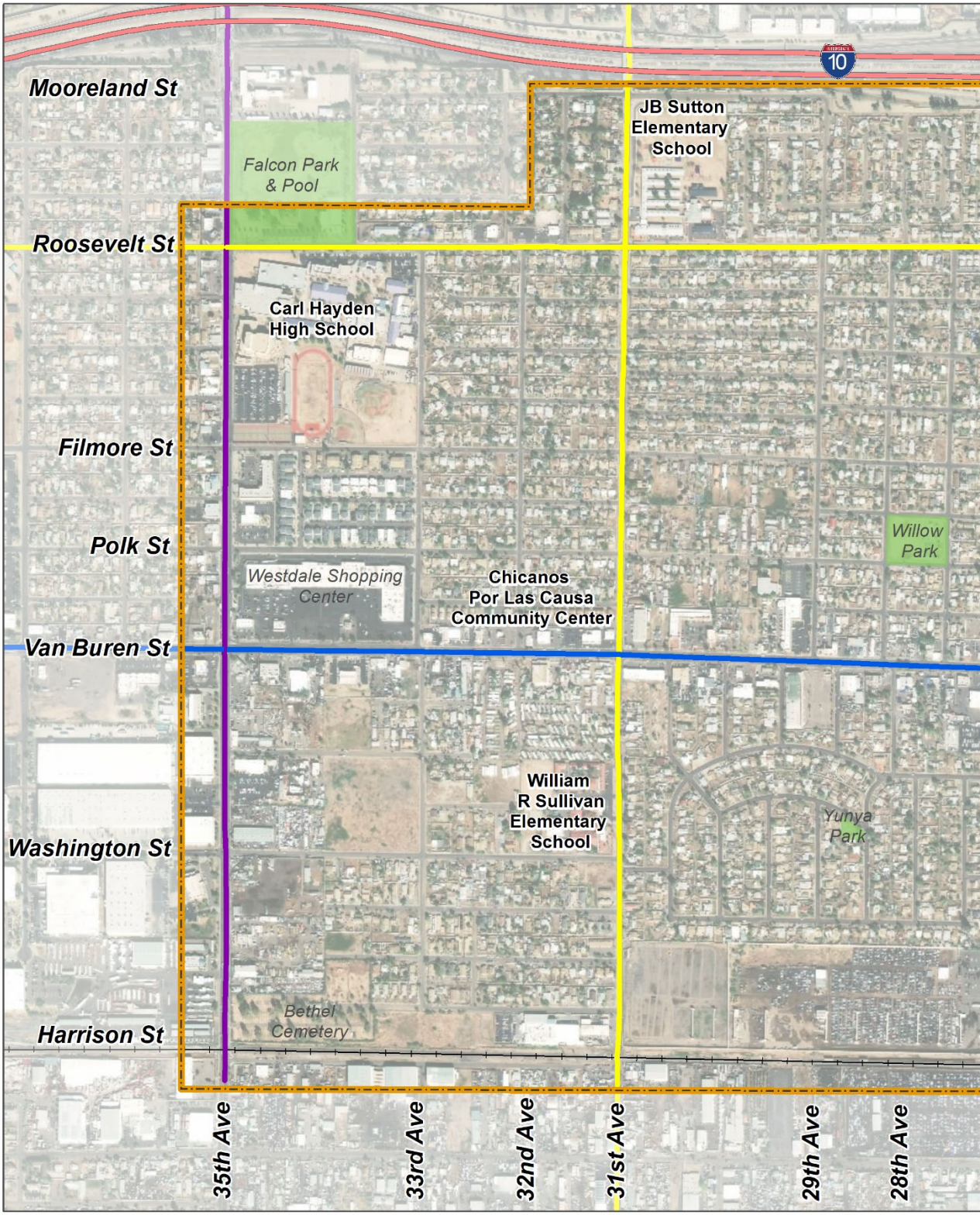
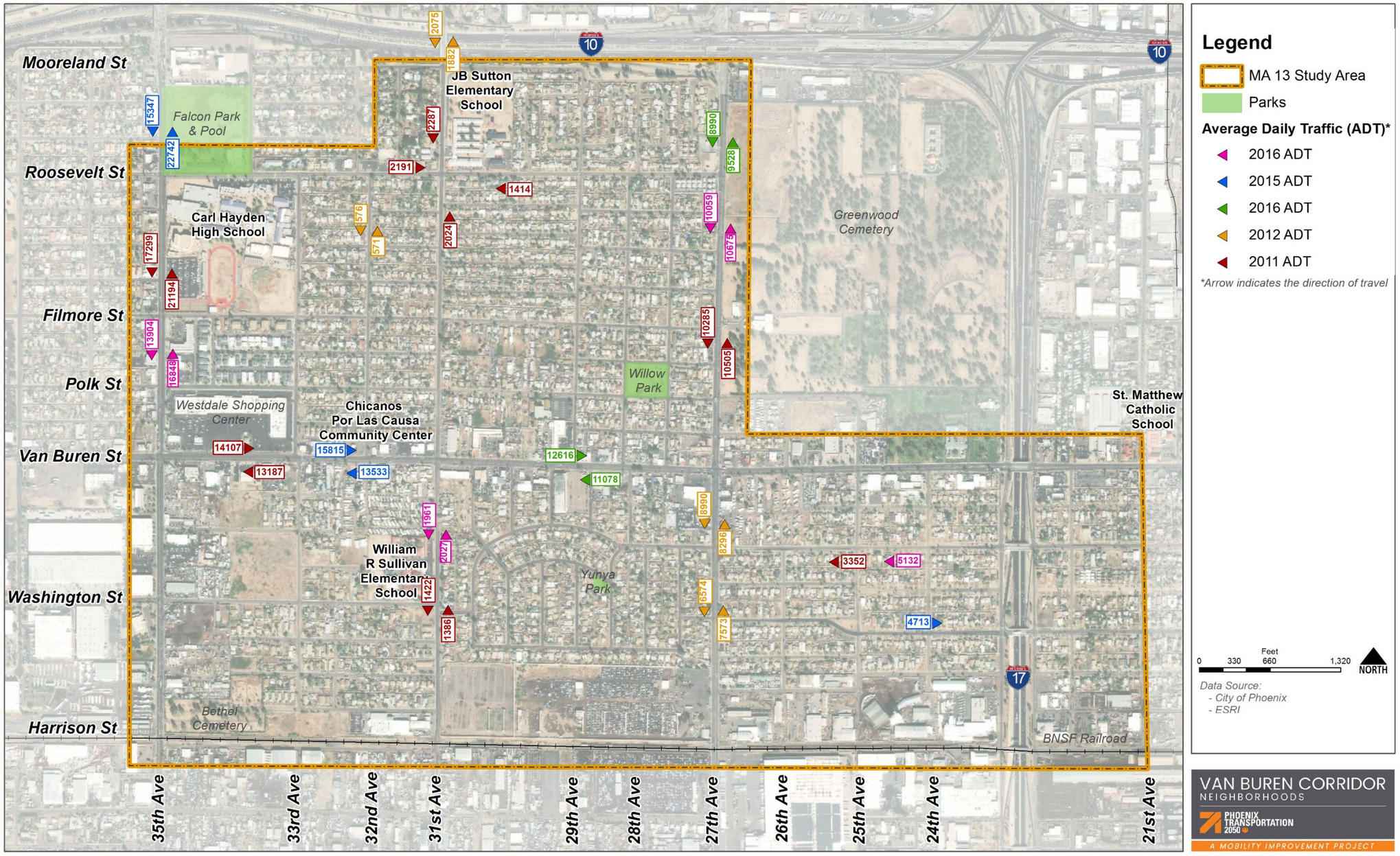


Figure 28: Daily Traffic Volumes



Legend

- MA 13 Study Area
- Parks

Average Daily Traffic (ADT)*

- 2016 ADT
- 2015 ADT
- 2016 ADT
- 2012 ADT
- 2011 ADT

*Arrow indicates the direction of travel

Feet
0 330 660 1,320
NORTH

Data Source:
- City of Phoenix
- ESRI

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Crash Data

Crash data for the study area was obtained to identify trends, patterns, predominant crash types, and high crash locations. Crash data for the five-year period, from January 1, 2013 to December 31, 2017 was obtained from the City of Phoenix.

During the five-year period, a total of 1,786 crashes were reported within the MA 13 study area. 1,714 of the 1,786 crashes were vehicular crashes, 32 were bicycle related and the remaining 40 were pedestrian related crashes. Detailed crash analysis for the study area is included within the ***Existing Corridor Safety Conditions*** section of this report.

Existing Pavement Conditions

The Street Transportation Department Street Maintenance division is responsible for the planning, programming and execution of the city's street maintenance program. This entails maintaining all roadways within the city's jurisdiction limits and does not include private streets, state routes maintained by ADOT and roads maintained by Maricopa County.

The Street Maintenance Division performs annual routine street maintenance activities to keep the city's street network in a state of good repair and extend their lifespan. The work to repair and improve our roadways ranges from pothole patching to the longer term and most expensive projects of resurfacing and the more extensive road reconstruction.

Enhancing the safety of the roadway and improving the ride comfort of the road surface provides a benefit to the traveling public.

The pavement surface for all roadways within the MA 13 study area are asphalt concrete. Pavement condition data for the study area was obtained from City of Phoenix. According the data obtained from City of Phoenix, pavement conditions for the MA 13 study area consist of:

Excellent Condition: Like new pavement, with no visible distresses and require no maintenance.

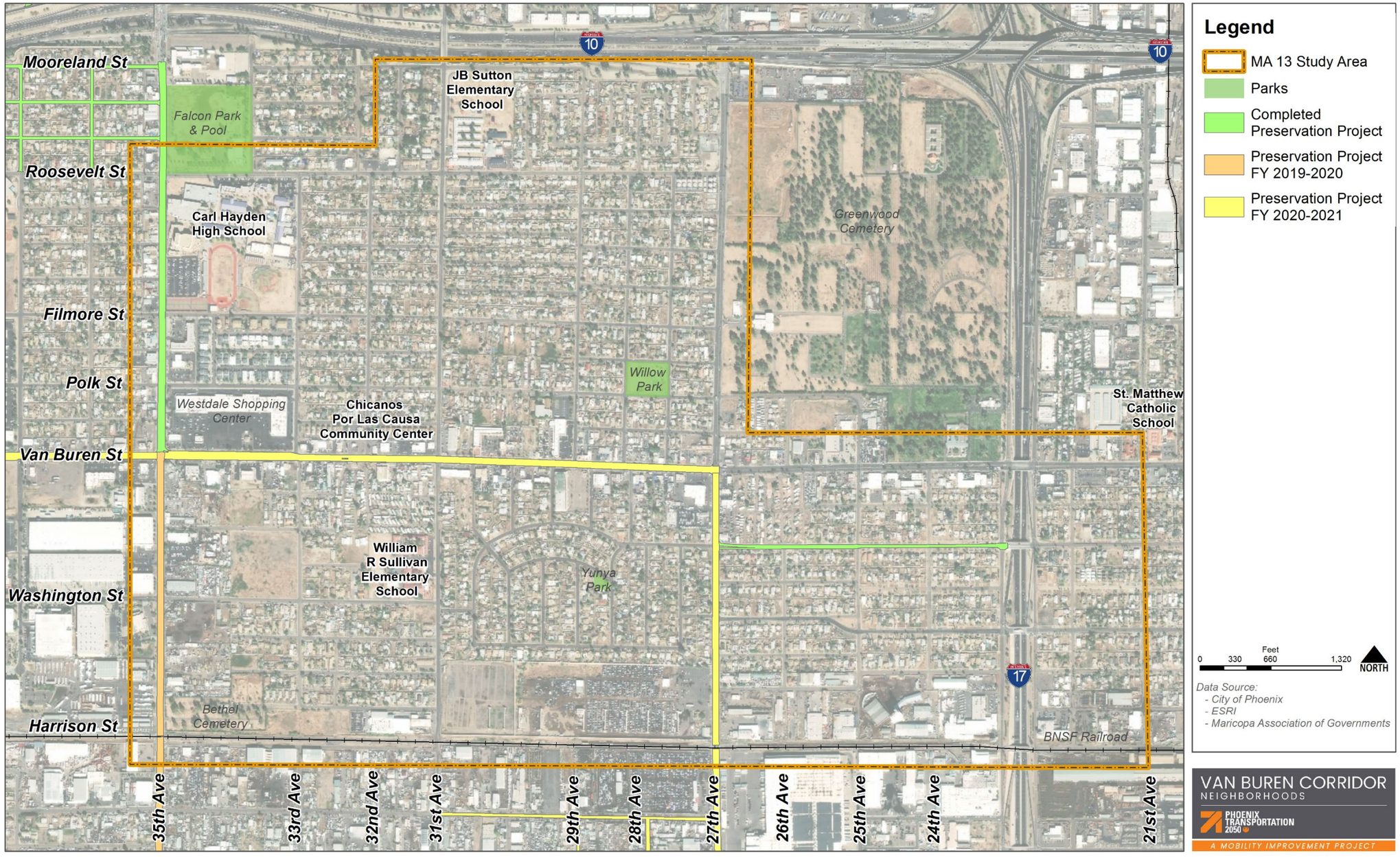
Good Condition: Like new pavement with few defects as perceived by field reviewers, no sign of cracking and pavement deterioration, no maintenance is required as cracks are barely visible or well-sealed.

Fair Condition: Slight rutting, cracking, and/or roughness that became noticeable by field reviewers. The road may also be bumpy but not enough to reduce vehicle speed and may have some pavement raveling.

Poor Condition: Multiple cracks, potholes, roughness, and/or bleeding are apparent on roadway. Roadway may be uncomfortable to vehicle occupants and drivers may need to correct or avoid road defects. Previous road repairs are deteriorated and require maintenance.

Figure 29 shows recently completed or programed pavement preservation projects within and adjacent to the MA 13 study area. The majority of the existing pavement in MA 13 is considered to be in Fair Condition. 35th Avenue north of Van Buren Street has a recently completed pavement preservation project in FY 2018. 35th Avenue south of Van Buren Street is scheduled for a pavement preservation project in FY 2020. Other roadways in MA 13 scheduled for upcoming pavement preservation projects are Van Buren Street west of 27th Avenue and 27th Avenue south of Van Buren Street, which are both scheduled to occur in FY 2021.

Figure 29: Recently Completed & Planned Pavement Preservation Projects



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Access Management Guidelines

Access Management is the control and management of every point of access on the public roadway network. The purpose of this control is to limit vehicular and pedestrian conflicts. Access Management guidelines for City of Phoenix are included in *Chapter 8* of the *City of Phoenix Street Planning and Design Guidelines* document published in December 2009.

Access Management guidelines for City of Phoenix are summarized below:

1. Single-family residential driveways should not be located within the curb radius return on a corner lot.
2. Existing, unused driveways must be replaced with curb, gutter and sidewalk built to City standards.
3. A single parcel or contiguous parcels comprising of one development should be limited to one driveway, unless traffic volume or street frontage warrants additional driveways.
4. On major arterial and arterial streets, the sharing of driveways between adjacent properties and common ingress/egress easements are strongly encouraged. Existing driveways that are unnecessary or substandard should be removed or upgraded in conjunction with any new on-site or street construction.
5. On major arterial and arterial streets, large developments should consolidate major driveways at 1/4 or 1/8-mile locations and align them with the driveways on the opposite side of the street.
6. Driveways to corner lots should be located as far away from the intersection as practical.
7. Driveways are prohibited within the passenger waiting area of bus stops unless relocation of the facility is approved by Public Transit. Driveways should be located such that bus stop improvements are beyond the projection of driveway visibility triangles and drivers will be able to see around bus stop improvements, both existing and planned. Driveways are not to be located within the flat portion of the bus bay (bus standing area).
8. Driveway connections should be placed at locations that facilitate the efficient entry and exit of vehicles to properties on both sides of a street and minimize conflicts with transit facilities, left turn pockets as well as traffic on the streets or neighboring properties.
9. The Driveway Ordinance prohibits access from commercial property to alleys that abut residential property. Access to alleys must be applied for and shall be considered by the Development Services Director or designee.
10. Median island opening will be allowed at 660-foot intervals as required in the City of Phoenix Street Classification System General Policy Document and Technical Supplement. Openings other than at the 660-foot locations may be permitted if approved by the Street Transportation Department.

11. On-street parking is normally permitted on both sides of local streets adjacent to single family residential properties if the street is a minimum of 29.16 feet (back-of-curb to back-of-curb) wide.

Traffic Calming

Traffic calming employs physical design measures to slow or reduce traffic in order to enhance safety for pedestrians and motorists. These features can include narrowed roads, speed humps etc. Traffic calming is the most effective way to reduce speeding on residential streets (locals and/or collectors), avoid traffic accidents and prevent fatalities.

There are a number of traffic calming techniques used by City of Phoenix to help alleviate cut-through traffic problems in neighborhoods. Several traffic management techniques used by the City are listed below:

1. Right-turn diverters,
2. Traffic circles,
3. Diagonal diverters,
4. Semi-diverters,
5. Turn restrictions,
6. Chicanes, and
7. Speed humps.

Traffic calming techniques and the standards details for traffic calming devices are included in *Section 7.4* of the *City of Phoenix Street Planning and Design Guidelines*.

The only traffic calming device utilized in MA 13 are speed humps, which are used throughout the study area on various local streets. **Figure 30** is an example of a speed hump on Adams Street just west of 27th Street.

Existing speed hump locations within MA 13 are shown in **Figure 36**.

Figure 30: Adams Street Speed Hump

Bicycle Infrastructure

Bicycle Lanes

Striped bike lanes exist on multiple roadways within the study area and are listed below and shown in **Figure 31**.

1. 31st Avenue between I-10 and Melvin Street, approximately 330 feet north of Van Buren Street,
2. Roosevelt Street between 36th Avenue and 31st Avenue (a 160-foot gap exists on west bound bike lane east of 35th Avenue, a 106-foot gap exists on the westbound lane west of 35th Avenue, and a 260-foot gap exists on the eastbound lane west of 35th Avenue),
3. Adams Street between 27th Avenue and 21st Avenue (west bound only, bike lane is buffered between 24th Avenue and 26th Avenue, and east of I-17), and
4. Jefferson Street between 27th Avenue and 21st Avenue (east bound only, sharrows only between 25th Avenue and 24th Avenue, bike lane is buffered east of 23rd Avenue/ I-17 Frontage Road).

Figure 31: One Way Bicycle Lane on Jefferson Street East of I-17

Figure 32: One Way Bicycle Lane on Adams Street West of I-17

Bicycle Routes

A signed bicycle route is typically designated along more lightly traveled residential or secondary roads and is indicated by signs with or without a specific route number and/or dedicated striping. This type of facility should have appropriate directional and informational markers. Signed bicycle routes are designated by the jurisdiction having authority over the roadways. Bicycle routes are often utilized to direct bicyclists to less-

congested roadways that may follow the same general corridor/direction as more heavily traveled arterial roadways.

Existing bike routes within the study area are shown in **Figure 36** and are listed below:

1. Adams Street between 27th Avenue to 30th Drive,
2. 30th Drive between Adams Street and Washington Street,
3. Washington Street between 30th Drive and 31st Avenue, and
4. 31st Avenue between Washington Street and Van Buren Street.

Figure 33: Bicycle Route on 31st Avenue

Bicycle Route Wayfinding

A bicycle wayfinding system consists of comprehensive signing and/or pavement marking to guide bicyclists to their destinations along preferred bicycle routes. Signs are typically placed at decision points along bicycle routes; typically, at the intersection of two or more bikeways and at other key locations leading to and along bicycle routes.

There are currently no bicycle wayfinding signs present in MA 13 study area.

Existing Bicycle Use

To better understand the level of existing bicycle activity, the City of Phoenix on occasion collects average weekday bicycle counts – or volumes - at various locations in the City. For MA 13, there is one corridor where bicycle counts have been conducted to date. This location, along 35th Avenue, is depicted in **Figure 36**. Bicycle counts were conducted on 35th Avenue between Melvin Street and I-10. Volumes report an average of 201 to 250 bicyclists on a typical weekday along this section of roadway which is adjacent to Carl Hayden High School.

There is a current lack of thorough bicycle volume data within MA 13, particularly within corridors with existing bike lanes.

Sharrows

Shared Lane Markings (SLM's), or "Sharrows" are road markings used to indicate a shared lane environment for bicycles and automobiles. Among other benefits, shared lane markings reinforce the legitimacy of bicycle traffic on the street, recommend proper bicyclist positioning, and may be configured to offer directional and wayfinding guidance. The shared lane marking is not a facility type, it is a pavement marking with a variety of uses to support a complete bikeway network.

Sharrows exist along Jefferson Street between 24th and 25th Avenues and are shown in **Figure 36**.

Bikeway Gaps

Bikeway gaps are commonly identified on either arterial or collector roadways. Bicycle gaps in the MA 13 study area exist on Roosevelt Street, 31st Avenue and 27th Avenue as shown in **Figure 36**.

Bike Share Locations

A bicycle sharing system is a service in which bicycles are made available for shared use to individuals on a very short-term basis for a fee. Bike share programs allow people to borrow a bike from one location and return it at another location.

There are currently no bike share locations within the MA 13 study area.

Connection to Trails

There are no paved or unpaved multi-use paths or trail within the MA 13 study area.

Bicycle Facility Transitions

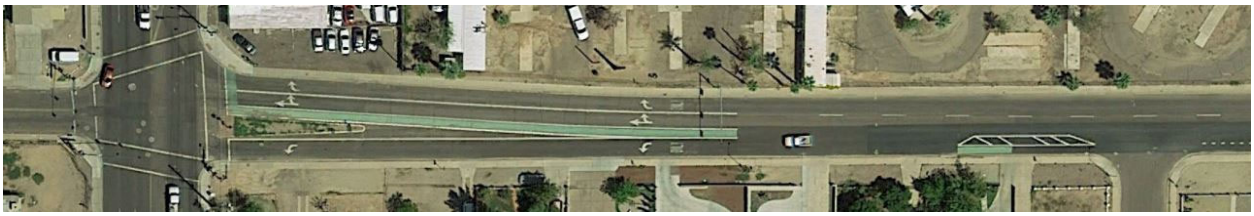
The westbound, one-way bicycle facilities along Adams Street have unique transitions and present challenges in need of unique solutions.

Adams Street at 27th Avenue

This westbound, one-way roadway has a buffered bike lane with green demarcation as it nears the intersection with 27th Avenue, and a bike box at the crosswalk. Observations that warrant additional analysis and recommendation include:

- no dashed line present as bike lane crosses the left turn lane
- cyclists have no facility options southbound or northbound on 27th Avenue, other than to take the vehicular travel lane or ride on the sidewalk.

Figure 34: Adams Street & 27th Avenue Intersection Bike Facility



Adams Street at I-17 Overpass/ 19th Avenue

This westbound, one-way roadway is unique in that it has two bike lanes as it approaches the intersection with 19th Avenue at the I-17 Overpass, both with green demarcation and a bike box at the crosswalk. Observations that warrant additional analysis and recommendation include:

- no dashed line present as bike lane crosses thru lanes to transition from the north side to the south side bike lane.
- Left turn westbound movements on red lights from northbound 19th Avenue.

Figure 35: Adams Street and I-17 Overpass/ 19th Avenue Intersection Bike Facility

Figure 36: Existing Bicycle Infrastructure

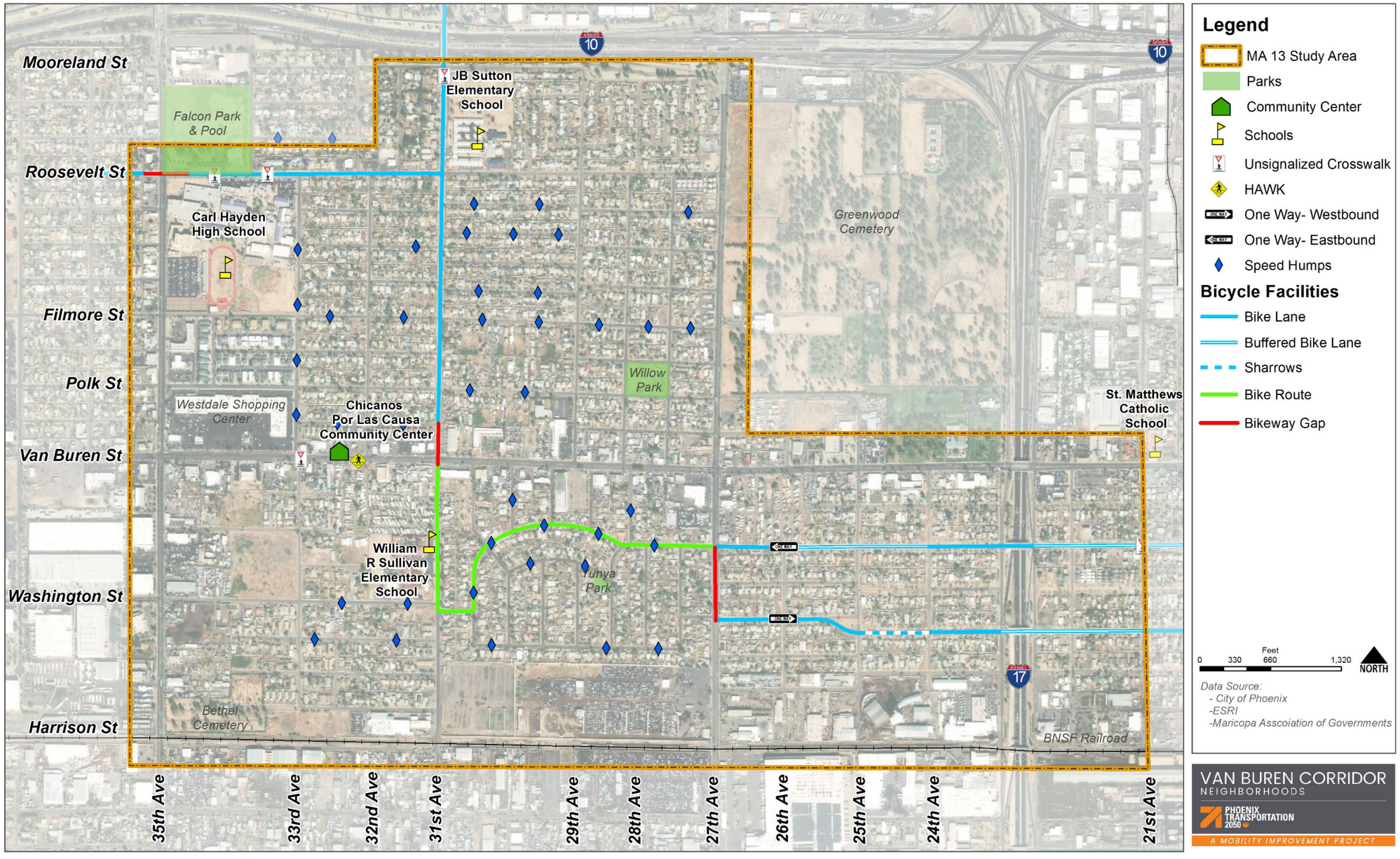


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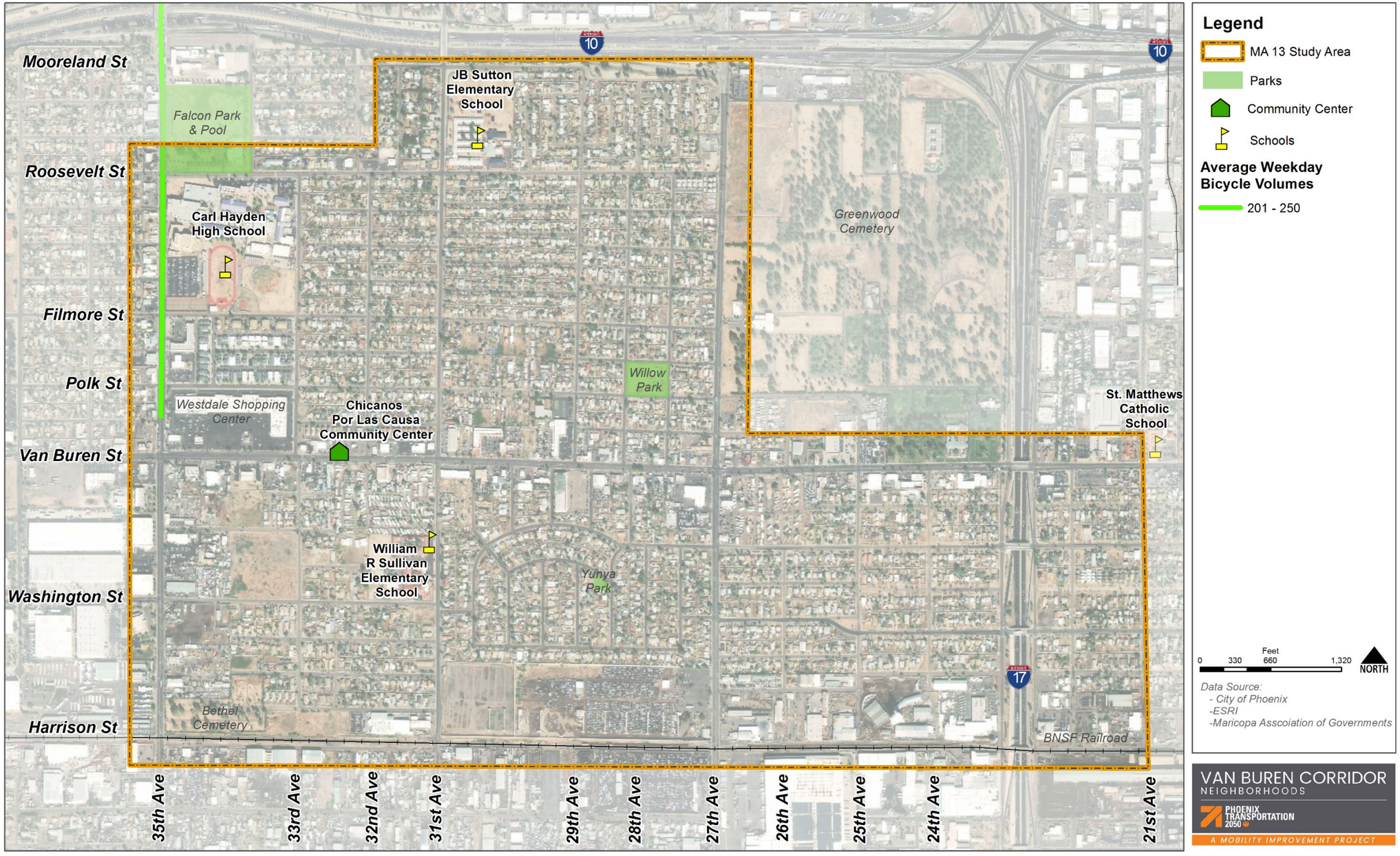
Figure 37: Existing Bicycle Volumes



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Pedestrian Infrastructure

Pedestrian infrastructure existing within MA 13 is discussed in the following sections.

Sidewalks

Sidewalks exist on the majority of roadways within the study area. **Figure 42** shows the existing sidewalk locations and sidewalk widths along all roadways within the study area. Existing sidewalks along local roads are 4 to 4.5 feet in width based on the sampling field observations taken along similar streets. Arterial streets have sidewalks ranging from 5 feet to 6.5 feet adjacent to Carl Hayden High School on Roosevelt Street and 35th Avenue. Based on the observations from the field reviews, the existing sidewalks within the study area are generally in good condition with no significant damage.

The existing sidewalk gaps identified within MA 13 are illustrated in red on **Figure 43**. Many neighborhood (local) streets within the study area do not have sidewalks for pedestrians to utilize. This forces pedestrians to navigate the street, often times posing a threat of potential collisions with vehicular traffic. The sidewalk gaps are primarily clustered in three different areas of MA 13. The main area of MA 13 with a concentration of missing sidewalks is in the Willow neighborhoods and in the neighborhoods located in the southeast portion of the study area. Otherwise, there are limited sidewalk gaps sprinkled throughout MA 13.

Figure 38: Missing sidewalks on 33rd Avenue

ADA Compliance

The minimum continuous and unobstructed clear width of a pedestrian access route shall be 1.2 m (4.0 feet), exclusive of the width of the curb. Where a pedestrian access route turns or changes direction, it should accommodate the continuous passage of a wheelchair or a scooter.

As shown in **Figure 42**, all the existing sidewalks within MA 13 study area are 4 feet or wider, therefore, the existing sidewalks generally appear to ADA compliant though it should be noted that a ADA assessment was not included in this project.

Figure 39: 8-Foot Sidewalks along Dunlap Avenue

Curb Ramps

According to the Americans with Disabilities Act (ADA), detectable warnings at curb ramps shall consist of a surface of truncated domes aligned in a square or radial grid pattern. **Figure 42** depicts the location of curb ramps with or without truncated domes within MA 13 study area. During the field visits, it was observed that 35th Avenue, 33rd Avenue, and 31st Avenue north of Van Buren Street were the only corridors that had consistent use of truncated domes at the crossing locations. Otherwise, non-truncated domes have been primarily installed on other corridors. Data from the City indicating curb ramp locations also indicated a priority ranking for ramps needing repairs for steep slopes, cracks, or other miscellaneous deficiencies. These priority curb ramps in need of repair are shown in **Figure 43**.

Marked Intersection Crossings

Crosswalks exist at all signalized intersections and in the vicinity of schools within the study area. Crosswalks exists at the following unsignalized intersections within the study area:

1. Van Buren Street and 33rd Avenue;
2. Washington Street and 31st Avenue
3. 31st Street north of Washington Street
4. Roosevelt Street east of 35th Avenue
5. Roosevelt Street East of 34th Avenue
6. Roosevelt Street and 31st Avenue
7. Roosevelt Street and 30th Avenue
8. Roosevelt Street and 29th Avenue

Figure 40: School Crossing on 31st Avenue

Mid-block Crossings and High Intensity Activated Crosswalk Beacon (HAWK)

A HAWK is a traffic control device used to stop road traffic and allow pedestrians to cross safely. There are currently no HAWKS in the MA 13 study area.

Rectangle Rapid Flash Beacon (RRFB)

RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. They can be activated by pedestrians manually by a push button or passively by a pedestrian detection system. There is currently one RRFB in MA 13 located on Van Buren Street, just west of 32nd Avenue. **Figure 41** below is an image of the RRFB on Van Buren Street.

Figure 41: RRFB on Vane Buren Street

Grade-Separated Crossings

There are no existing pedestrian bridges or grade-separated crossings within MA 13.

Figure 42: Existing Sidewalks and Curb Ramps

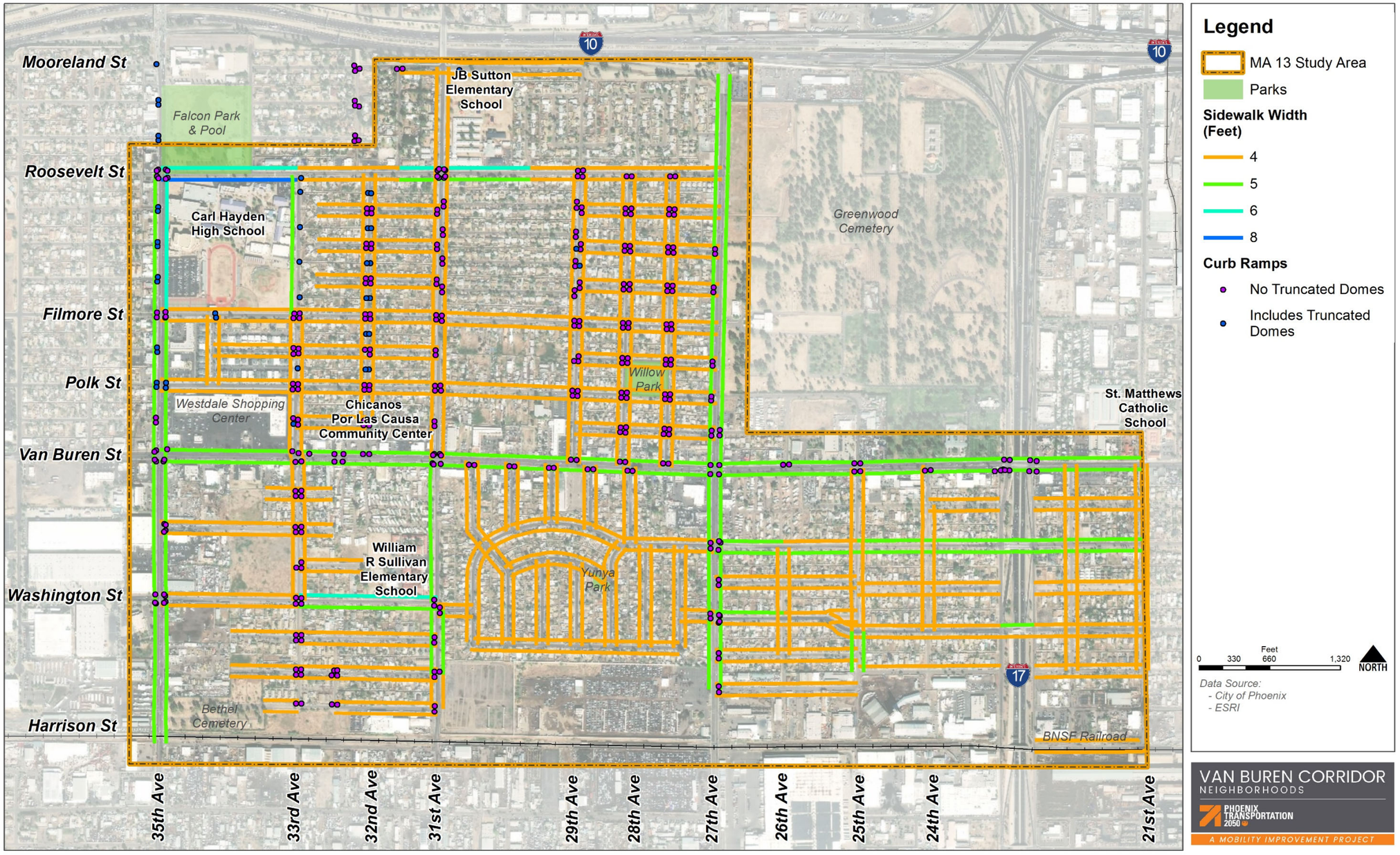

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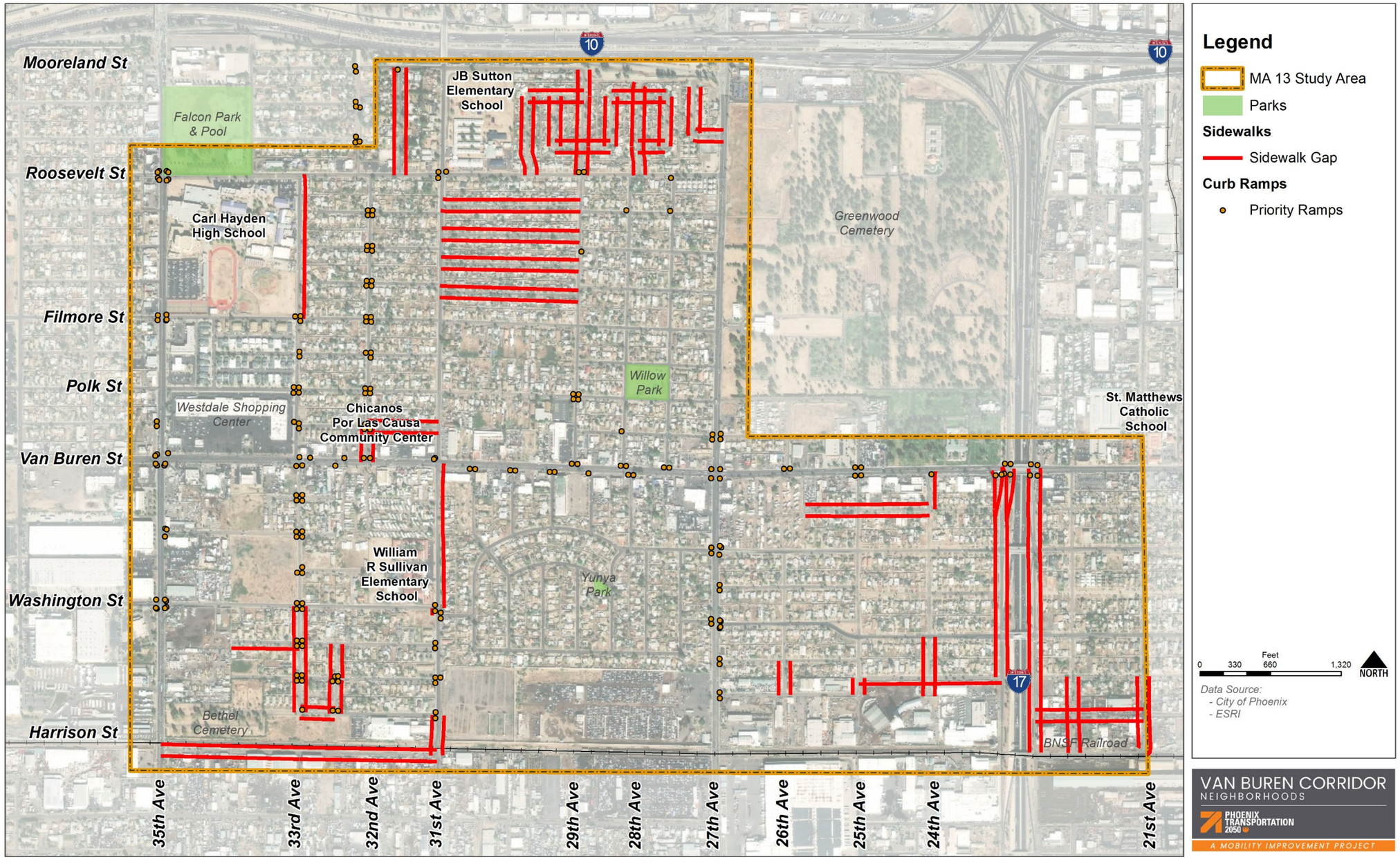
Figure 43: Identified Sidewalk Gaps



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Transit Infrastructure

The Valley Metro Regional Public Transportation Authority, more popularly known as Valley Metro, is the unified public brand of the regional transit system in and around the Phoenix, Arizona, metropolitan area. Within the system, it is divided between Valley Metro Bus, which runs all bus operations, and Valley Metro Rail, which is responsible for light rail operations in the valley.

Only the Valley Metro bus system runs within MA 13 study area.

Existing Bus Routes

Valley Metro bus system runs along the following roadways within MA 13 study area:

East-West Direction:

1. Van Buren Street from 27th Avenue to 35th Avenue (Route 3)
2. I-10 RAPID Route (no stops adjacent to the MA 13 study area)
3. Express Commuter Routes 573, 562, and 571 (no stops adjacent to the MA 13 study area)

North-South Direction:

1. 35th Avenue from Harrison Street to I-10 (Route 35)
2. 27th Avenue from Harrison Street to I-10
3. I-17 RAPID Route (no stops in the MA 13 study area)

Figure 46 shows the bus routes and the bus stop locations within MA 13 study area. Ridership data, shown in **Table 2**, was retrieved from Valley Metro's FY 2018 Annual Ridership Report.

Table 2: Bus Ridership

Route	Total FY18 Boardings	FY18 Bikes	Wheelchairs	% Change from FY17
3	1,370,876	30,477 (2.2%)	8,505 (0.6%)	9.7%
27	1,034,281	22,344 (2.2%)	5,512 (0.5%)	7.3%
35	1,505,938	36,487 (2.4%)	7,305 (0.5%)	3.4%

Future Bus Routes

The City of Phoenix has proposed 35th Avenue as a potential corridor for Bus-Rapid Transit. This proposed corridor would run 20 miles from Southern Avenue to the Metro Center. There are currently no stops planned at this time.

Light Rail Routes

The Valley Metro light rail system does not currently exist within MA 13 study area. However, the planned Capitol/I-10 West light rail line will traverse near the MA 13 study

area with two planned stops, one on 35th Avenue and I-10, and the other stop near 21st Avenue and Van Buren Street.

This project will extend light rail from downtown Phoenix through the State Capitol Mall area to 79th Ave/I-10 freeway by 2023. It will consist of several freeway and neighborhood stations and enhancements to the existing 79th Ave/I-10 Park-and-Ride.

ADA Compliance for Transit

To meet ADA requirements, a bus stop must have a boarding clear length of 96 inches perpendicular to the roadway edge and a clear width of 60 inches parallel to the roadway. There are currently eight ADA non-compliant bus stops that exist at the following locations within MA 13:

1. 35th Avenue at Filmore Street – northbound direction
2. 27th Avenue at Mooreland Street – southbound direction
3. 27th Avenue at Filmore Street – northbound direction
4. 27th Avenue at Filmore Street –southbound direction
5. 27th Avenue at Adams Street – northbound direction
6. 27th Avenue at Adams Street –southbound direction
7. 27th Avenue at Washington Street –southbound direction
8. Van Buren Street at 25th Avenue – westbound direction

Transit Gaps

Based on the field observations and as shown in **Figure 46**, no gaps were present along the bus routes through MA 13.

Figure 44: ADA Compliant Bust Stop on 27th Avenue

Figure 45: Non-ADA Compliant/Accessible Bust Stop on 27th Avenue

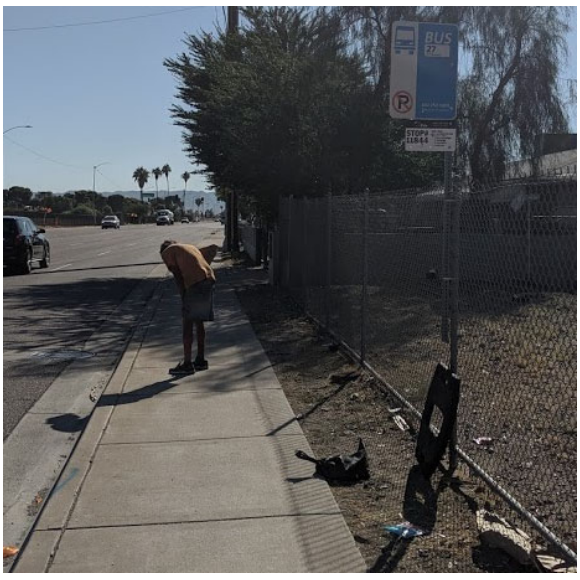
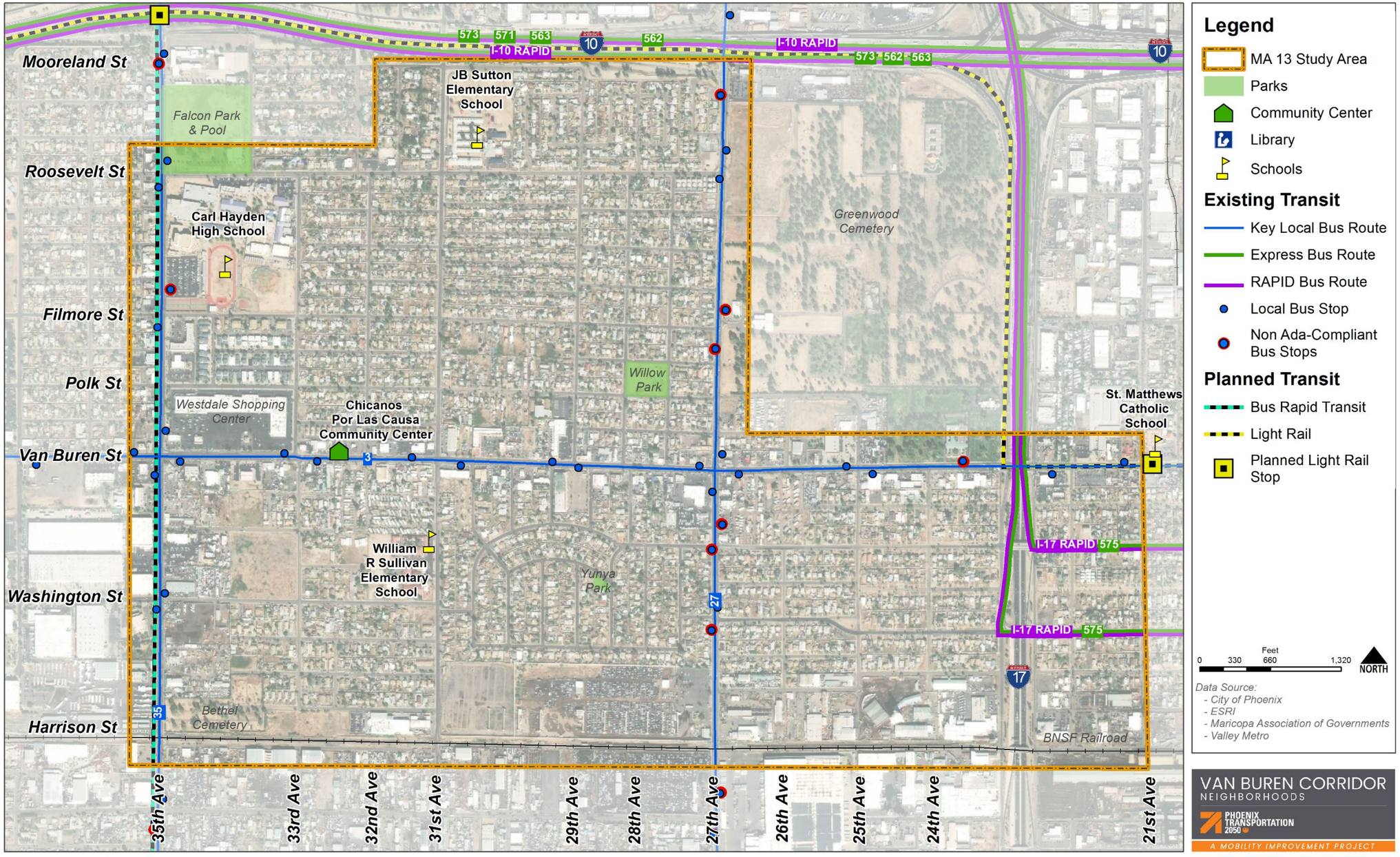


Figure 46: Existing & Planned Transit Facilities



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Utilities and Lighting Infrastructure

Utilities

There are many existing utilities along the street network within MA 13. These include visible utilities such as overhead telephone and APS power lines, fire hydrants, traffic signal equipment, storm drains, SRP irrigation structures, private irrigation equipment, backflow preventers, and private utility cabinets. Additionally, there are many underground utilities such as Century Link cable TV and fiber, City of Phoenix water and sewer, COX cable TV and fiber, telecommunications, APS electric, communication and fiber, Southwest Gas and Zayo Group fiber. A complete list of utilities within MA 13 is provided in **Table 3**.

Table 3: Existing Utilities Within MA 13

Member Name	Facility Type
AT&T	Coaxial, Fiber
APS	Electric
City of Phoenix – ITS	Coaxial, Fiber
City of Phoenix – Public Transit	Electric
City of Phoenix – Traffic Signals	Fiber, Junction Box, Traffic Signals
City of Phoenix – Water Services	Reclaimed Water, Sewer, Water
COX Communications	CATV, Fiber
CenturyLink	Coaxial, Fiber
Flood Control District of Maricopa County	Electric, Storm Drain, Water
Level 3 Communications	Fiber
MCI (Verizon Business)	Fiber
Pauley Construction	Communications, Fiber Optic
SRP	Communication, Electric, Fiber, Irrigation
Southwest Gas	Gas, High Pressure Gas
Zayo Group	Communication Vault, Conduit, Fiber

The City worked with various private utility companies to provide pertinent engineering documents and maps to the project team. Due to security and sensitivity of the information, the data was not shared in a form to readily create figures to depict the location of utilities on an exhibit map at this time. However, the provided data and maps of existing utilities will be extensively evaluated when determining recommendations and solution sets to evaluate potential utility conflicts. Any improvements to the utilities that can be made in tandem with the multimodal mobility and connectivity recommendations produced from this study will also be considered.

CHAPTER 5: EXISTING CORRIDOR SAFETY CONSIDERATIONS

A crash analysis was conducted for the MA 13 study area to identify trends, patterns, predominant crash types, and high crash intersections. The purpose of the crash analysis is to discover safety hazard locations that need to be addressed to improve area safety. Crash data for the five-year period from January 1, 2013 to December 31, 2017 (most recent data available) was obtained from the City of Phoenix.

The Van Buren Street corridor, 35th Avenue corridor and 27th Avenue corridor experienced the highest incidents of crashes. This fact is not surprising as these roadways are the primary arterial roadways in the MA study area experiencing the highest volumes of traffic.

Vehicular Crash Data Analysis

During the five-year analysis period, 1,786 crashes occurred within MA 13 study area. The following sections discuss the crashes within the study area during the five-year analysis period.

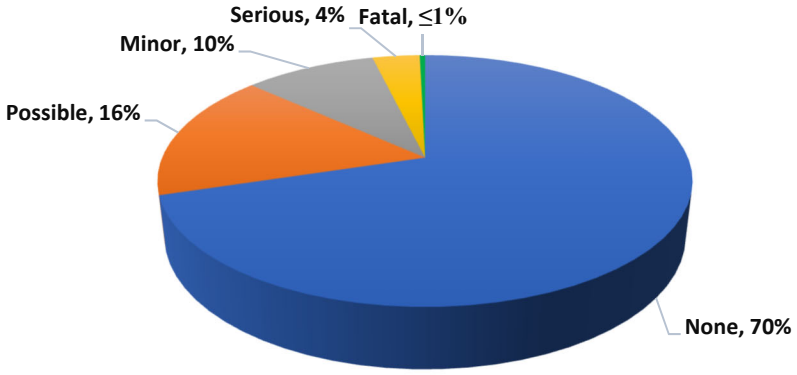
Injury Severity

There were 7 fatalities reported in the analysis period within the study area during the five-year analysis period at the following locations:

1. 35th Avenue and Washington Street: pedestrian-related,
2. Van Buren Street and 27th Drive: pedestrian-related,
3. Van Buren Street and 27th Drive: pedestrian-related,
4. 35th Avenue and Roosevelt Street: vehicle-related,
5. 35th Avenue and Melvin Street: vehicle-related,
6. Jackson Street and 31st Avenue: vehicle-related, and
7. Harrison Street and 35th Avenue pedestrian-related.

Figure 47 illustrates the percentage of crashes that occurred within the study area during the five-year analysis period based on the severity of crashes.

Figure 47: Crash Percentages by Injury Severity



A comparison of total crashes that occurred in the five-year period within the MA 13 study and the Statewide average is shown in **Table 4**. As shown in **Table 4**, 524 of 1,786 crashes (29.33%) within the study corridor resulted in an injury crash, which is slightly lower than the statewide average injury crash percentage for the year 2013 to 2017 (30.9%). The rate of fatal crashes is also slightly lower than the state average.

Table 4: Crash Severity Comparison

Crash Severity	Number	MA 13%	Statewide Average %*
Fatal	7	0.4%	0.7%
Injury	524	29.33%	30.9%
Property Damage Only	1,255	70.3	68.4%

**Source: Arizona Department of Transportation (ADOT)*

Figure 48 and **Figure 49** illustrate the locations of all crashes based on severity within the study area for all crash types, including bicycle/pedestrian related crashes. Consistent with the overall crash data presented above, the 35th Avenue and Van Buren Street corridors represent the most frequent number of bicycle and pedestrian related collisions. In the MA 13 study area.

Figure 48: Location of All Crashes by Severity

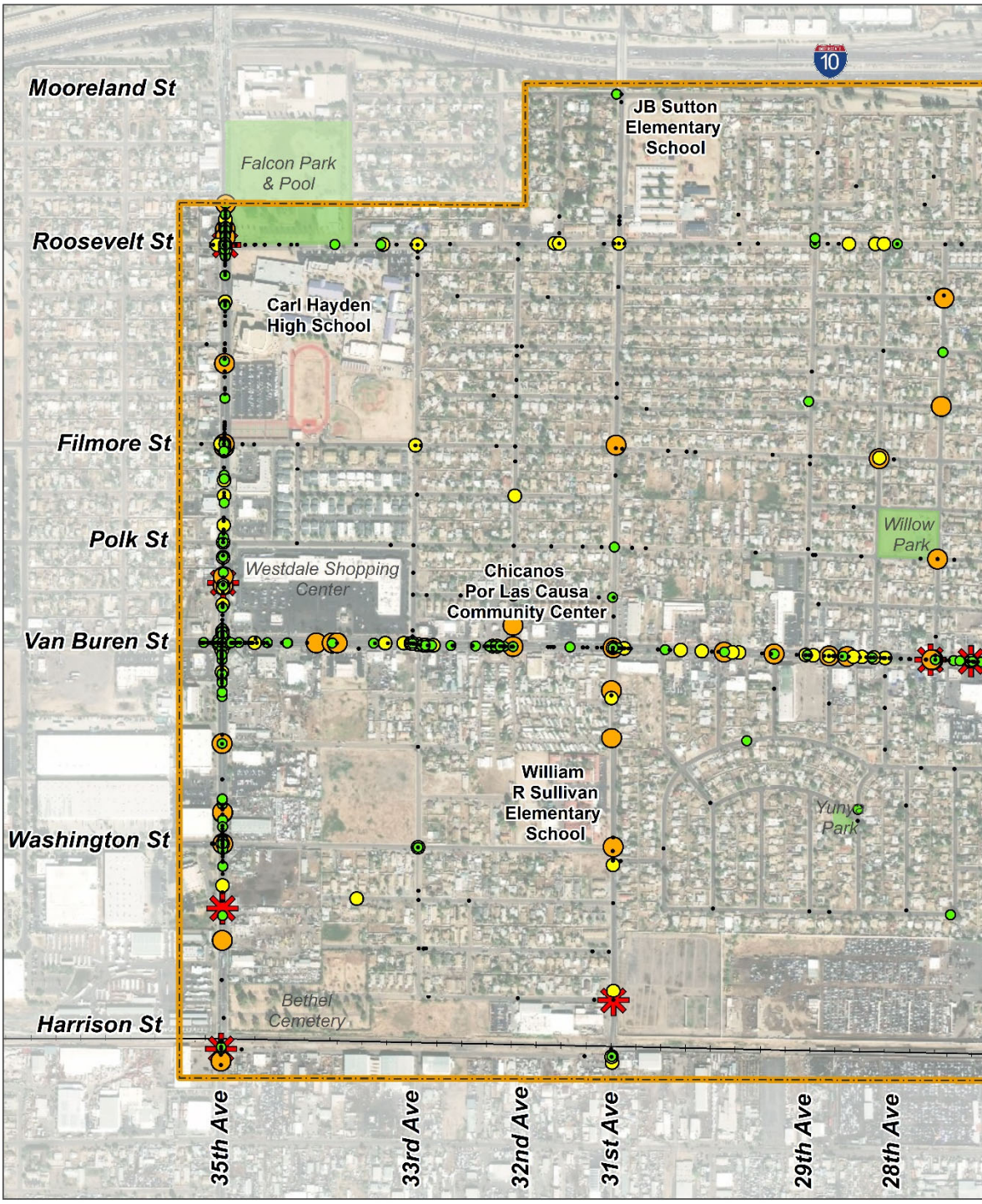
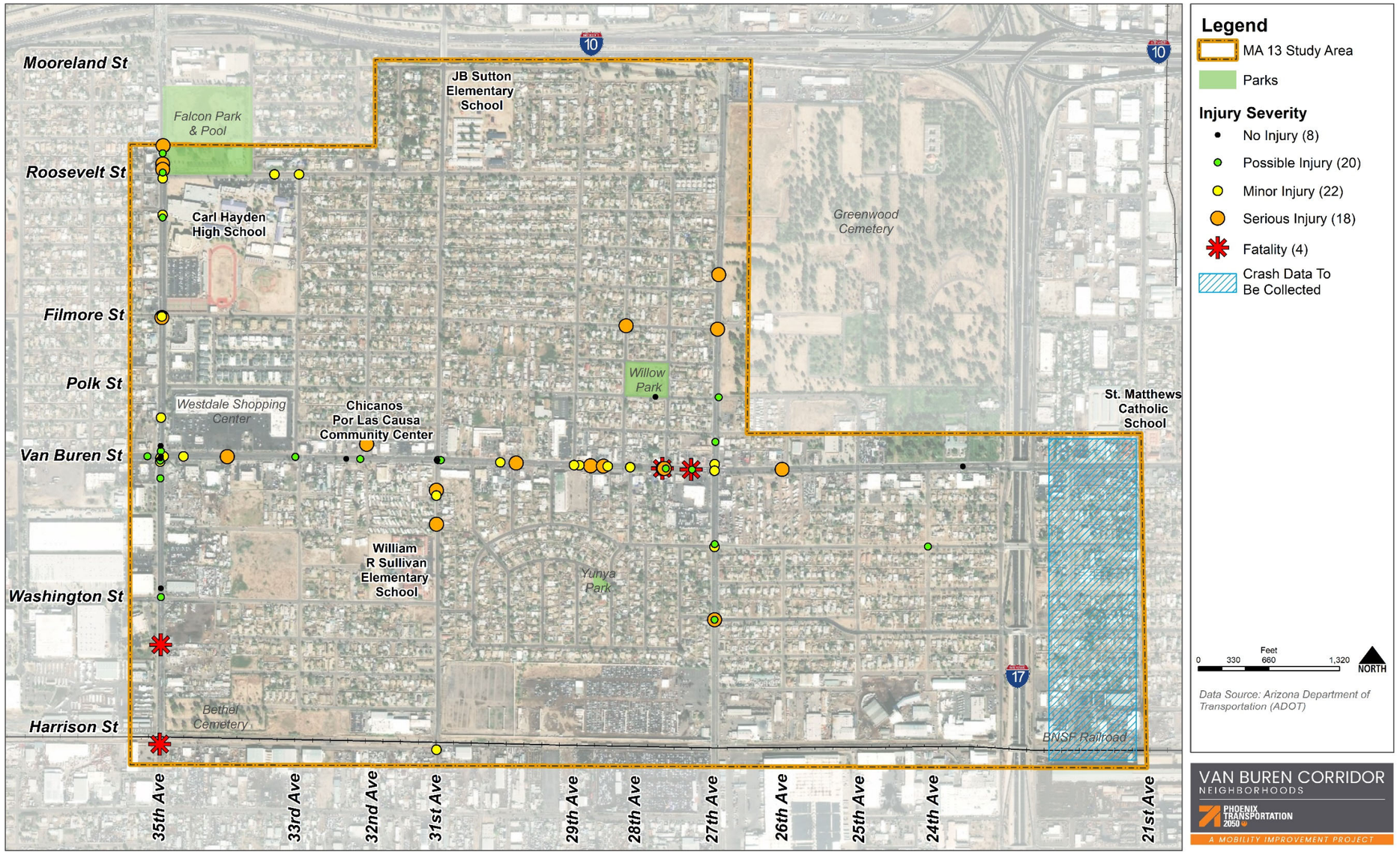


Figure 49: Location of Pedestrian and Bicycle Crashes by on Severity



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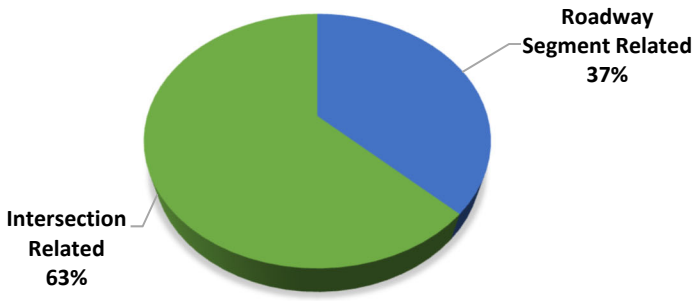
Intersection Relation

As shown in **Figure 50**, 63% of the crashes within MA 13 study area during the five-year analysis period occurred at an intersection.

Figure 50: Crash Percentages based on Intersection Relation



Collision Manner

Figure 51 illustrates the percentage of crashes that occurred within the study during the five-year study period by collision type. As shown, 28% of the total crashes during the analysis year were angled collisions, 25% were rear end collisions, 20% were sideswipe crashes, 13% were left turn collisions, 12% were single vehicle collisions.

Figure 51: Crash Percentages by Collision Manner

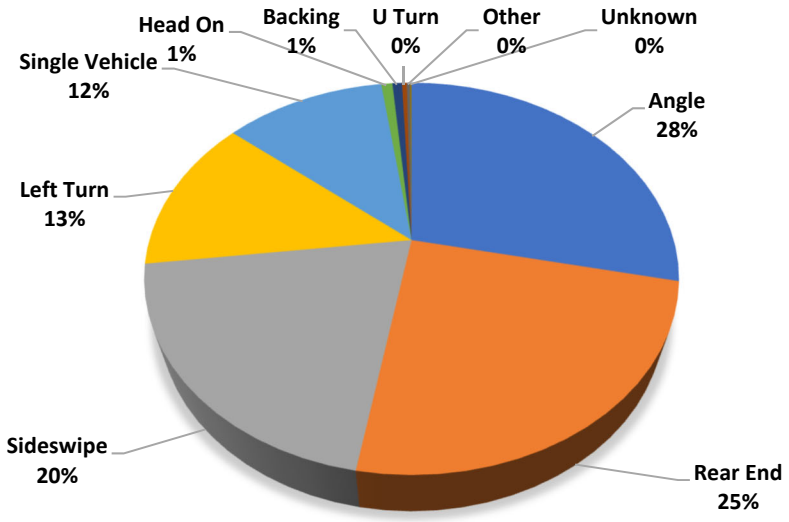
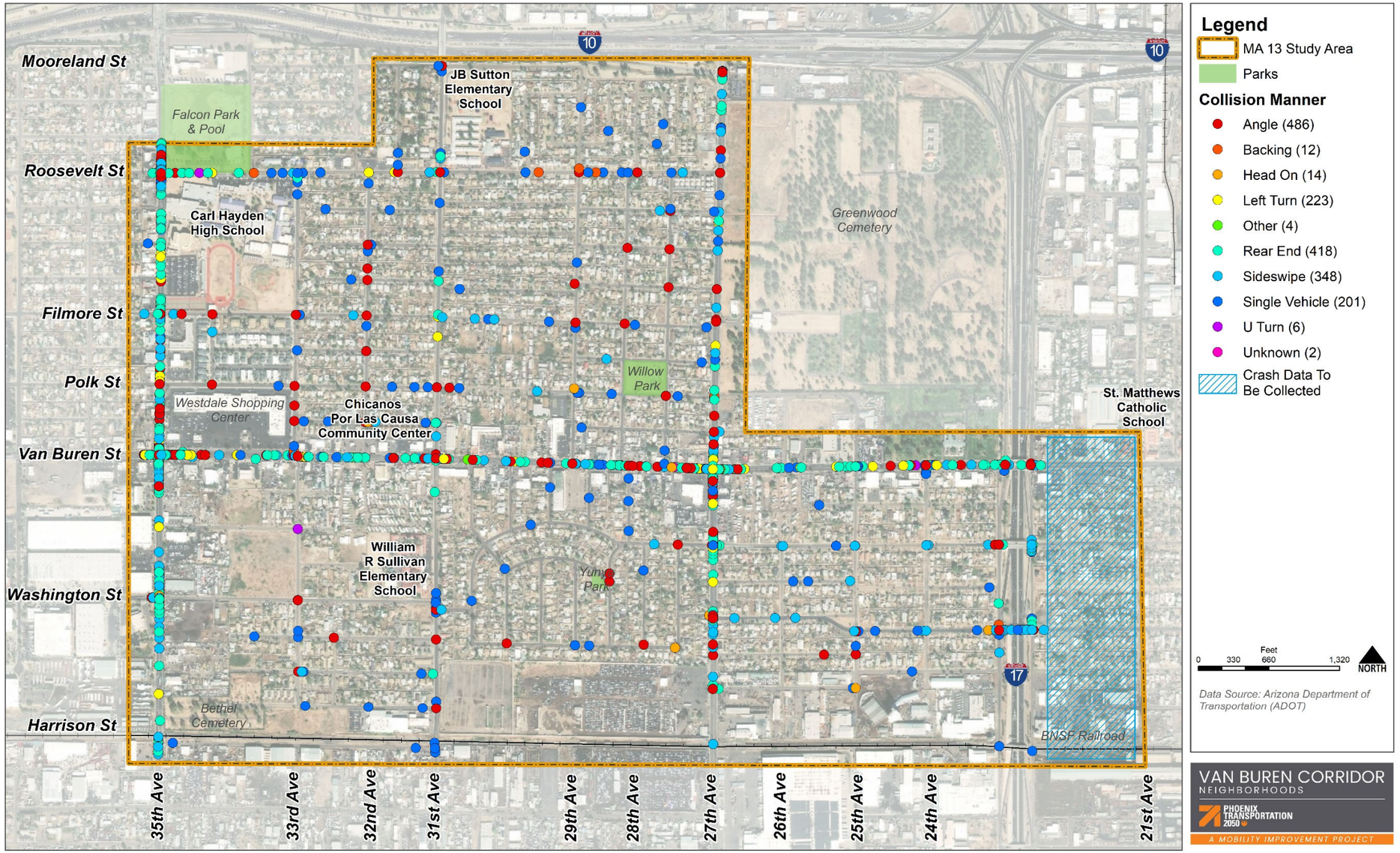


Figure 52 illustrates the locations of all crashes based on the collision manner within the study area. There is a high occurrence of rear end and angled crashes on 35th Avenue and Van Buren Street, as well as a high occurrence of left turn crashes on 35th Avenue.

Figure 52: Location of All Crashes by Collision Manner



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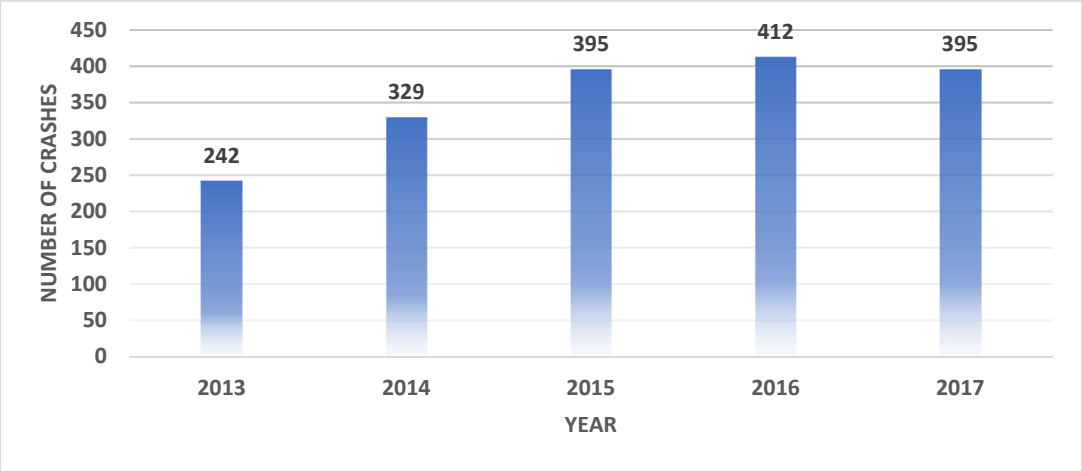
Crashes by Year

Figure 53 illustrates the total number of crashes that occurred within the MA 13 study area during the five-year study period in each year. As shown in the Figure, 2016 experienced the highest number of crashes in the study area (with total 412 crashes). The number of crashes has increased approximately 39% 2013 to 2017.

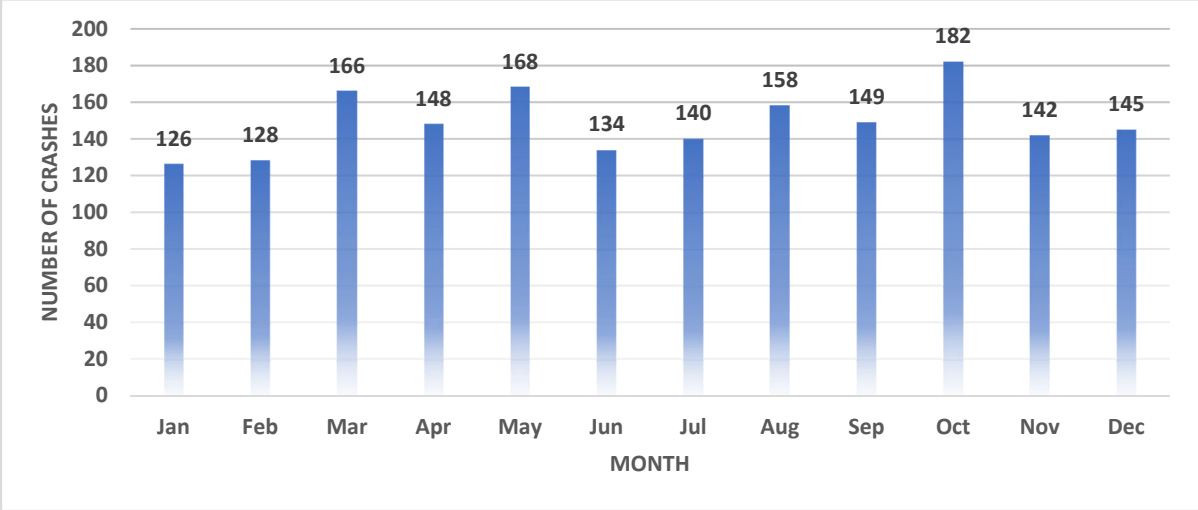
Figure 53: Number of Crashes by Year



Crashes by the Time of the Year

Figure 54 illustrates the total number of crashes that occurred in each month within the study during the five-year analysis period. March, May and October had the highest number of crashes followed by April, August, and September.

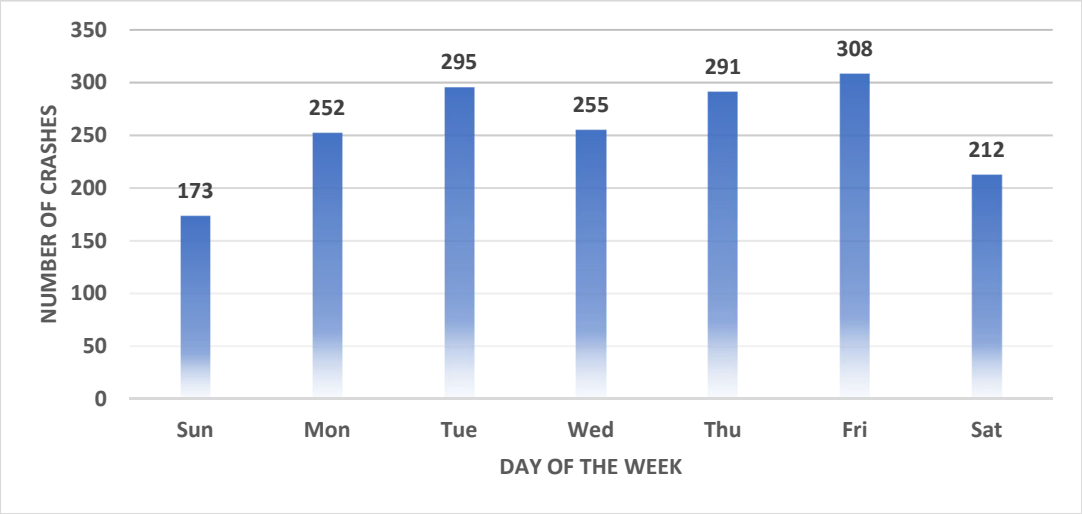
Figure 54: Total Crashes by Month



Crashes by the Day of the Week

Figure 55 illustrates the number of crashes by day of week within the study area during the five-year analysis period. Weekdays tend to experience more crashes than the weekends, with Friday experiencing the most crashes.

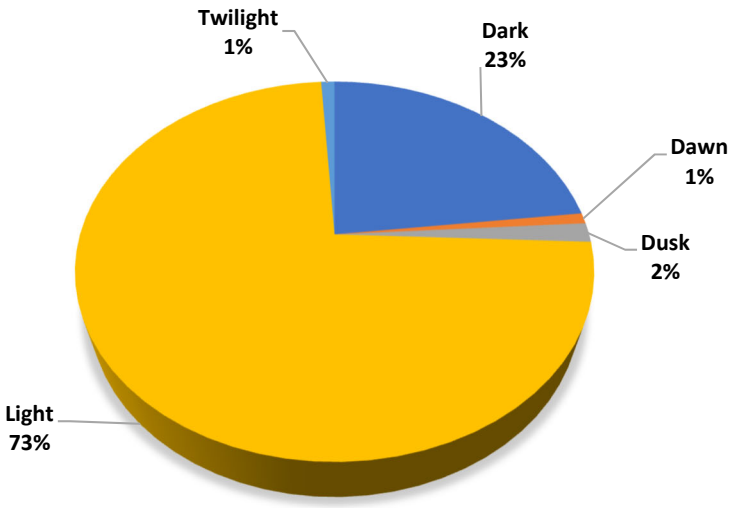
Figure 55: Total Crashes by Day of the Week



Lighting Conditions

Figure 56 illustrates the percentage of total crashes that occurred within the study area during the five-year analysis period based on the lighting conditions of the study area. As shown, 73% of the total crashes occurred during daylight and 23% of the crashes occurred during dark conditions.

Figure 56: Crash Percentages by Lighting Conditions



Bicycle Crash Data Analysis

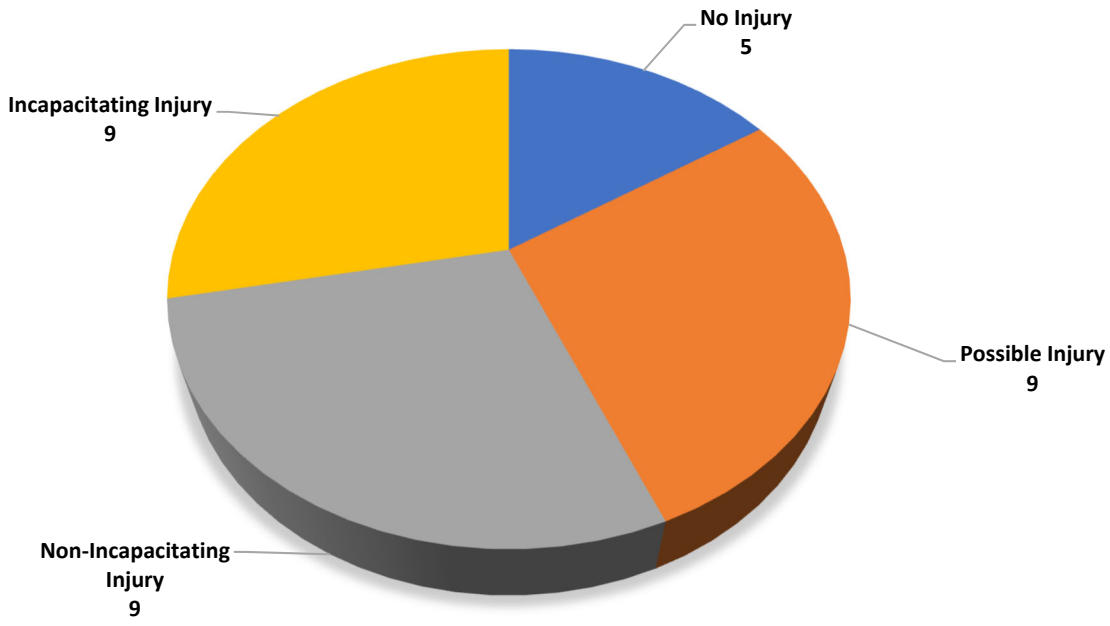
Bike related crashes account for 32 of the 1,786 crashes (1.8%) within the MA 13 study area. **Figure 57** illustrates the total number of bicycle related crashes that occurred within the study area during the five-year analysis period based on injury type.

Of the 32 bicycle related crashes, 9 resulted in an incapacitating injury at the following locations:

- One at the intersection of 27th Avenue and Jefferson Street,
- One at the intersection of Van Buren Street and 27th Drive,
- One at the intersection of Fillmore Street and 28th Avenue,
- One west of the intersection of Van Buren Street and 29th Avenue,
- One south of the intersection of Van Buren Street and 35th Avenue,
- One west of the intersection of Van Buren Street and 27th Avenue,
- Two east of the intersection of 31st Avenue and Van Buren Street, and
- One west of the intersection of 32nd Avenue and Van Buren Street.

Of the remaining bicycle related crashes, 9 were non-incapacitating injury crashes, 9 were possible injury crashes and 5 were non-injury crashes.

Figure 57: Bicycle Crash Summary



Pedestrian Crash Data Analysis

The pedestrian related crashes include 40 of the 1,786 crashes (2.2%) within MA 13. **Figure 58** illustrates the total number of pedestrian related crashes that occurred within the study area during the five-year analysis period.

Of the 40 pedestrian related crashes, 4 crashes resulted in fatalities during the five-year analysis period. The 4 fatal pedestrian related crashes occurred at the following locations and lighting conditions:

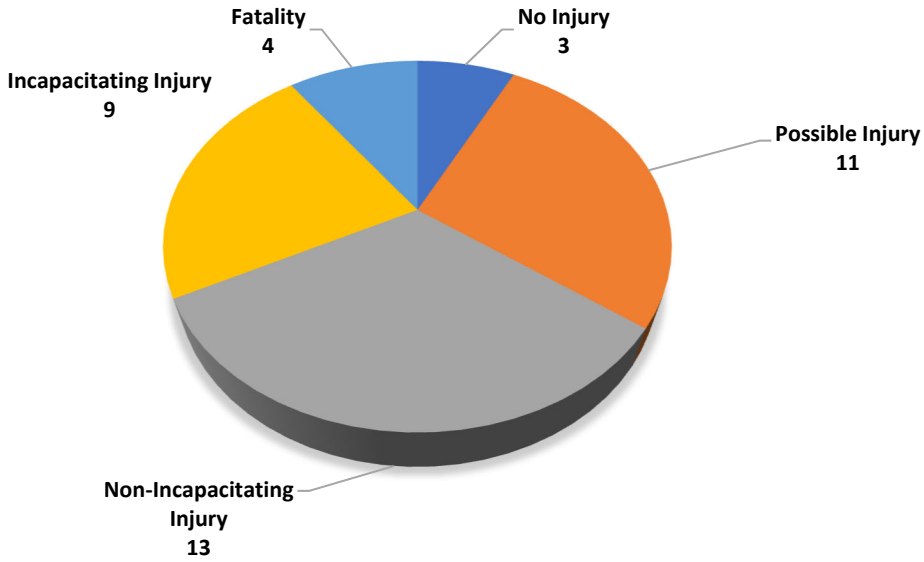
- One at the intersection of Van Buren Street and 27th Avenue, dark condition,
- One at the intersection of Harrison Street and 35th Avenue, daylight conditions,
- One north of the intersection of 35th Avenue and Washington Street, twilight conditions, and
- One east of the intersection of Van Buren Street, dusk conditions.

Violations documented for the pedestrian related fatalities included:

- Two occurred because the pedestrian did not use the crosswalk, one was drug related and the other was alcohol related,
- One occurred because the pedestrian failed to yield to the right-of-way, and
- One occurred because of faulty or missing equipment.

Of the remaining pedestrian related crashes, 9 were incapacitating injury crashes, 13 were non-incapacitating injury crashes, 11 were possible injury crashes and 3 were non-injury crashes.

Figure 58: Pedestrian Crash Summary



CHAPTER 6: COMMUNITY OPEN HOUSE MEETING SUMMARY

On Thursday, October 3, 2019, the project study team attended the monthly neighborhood block watch meeting held at the Chicanos Por La Causa Community Center located at 3219 W. Van Buren Street. With the assistance of a City-provided Spanish translator, the project team provided a PowerPoint presentation overview of the City of Phoenix T2050 program and introduction into the MA 13 study area, including project objectives and summary of some existing conditions.

Upon completion of the PowerPoint presentation, the study team led an interactive discussion and mapping exercise to identify and discuss resident mobility concerns and needs in MA 13.

A summary of the mobility issues and concerns raised by meeting attendees includes the following:

- There are stop signs missing at the intersections of many local streets. It seems that kids keep taking the signs, but it leads to dangerous conditions as drivers are uncertain if they should stop, yield or keep going.
- The existing RRFB on Van Buren outside of the Community Center may not be effective/safe. A HAWK type of crossing should be considered.
- There are many cars parked on the local streets in the neighborhood. Some of these streets do not have sidewalks, forcing pedestrians – children in particular – to walk in the middle of the street. There is a speeding problem too, both creating a dangerous condition for pedestrians and neighborhood children.
- Melvin St., 31st to 32nd Avenues – no sidewalks and poor lighting (constant street lights out). This is a busy gateway to the Community Center.
- There are no street trees on Van Buren St. Need shade for pedestrians in the summer time.
- 27th Avenue – consider the potential for road diet – concern that there will lead to more cars/trucks cutting through neighborhood streets.
- 35th Avenue and Roosevelt Street – cars are often speeding ad they don't respect bicyclists in the bike lanes.
- 31st Avenue and Pierce Street – no stop sign for the blind; consider lowering the speed limit as there are many speeding vehicles in this area.
- 32nd Avenue from Van Buren St. to Roosevelt St. – speeding is a constant problem; lack of stop signs (need replacing). Suggest there is drug activity and homeless in this area.
- JB Sutton Elementary School – there are no speed limit signs around the school

- 29th Avenue and McKinley – speeding a problem, recommend adding speed humps, lots of traffic in this area with the church
- 3th Avenue and Van Buren St area – speeding often on both roadways near intersection
- There are no speed limit signs posted on Roosevelt Street
- 30th Avenue and McKinley – existing speed humps need striping

Figure 59: Community Open House Feedback Map